



copy 20, 1869.

Mass Hort Soc. v. E. F. - 1869, 2 m.s.!

A3

REGULATIONS FOR THE LIBRARY
OF THE
Massachusetts Horticultural Society,
ADOPTED 1861.

ARTICLE I.

All Books, Manuscripts, Drawings, Engravings, Paintings, Models, Furniture, and other articles appertaining to the Library, shall be confined to the special care of the Committee on the Library.

ARTICLE II.

When any books or publications are added to the Library, a list thereof shall be posted up in the Library Room, and all such additions shall be withheld from circulation for the term of one month.

ARTICLE III.

The following Books of Record shall be kept:—

- No. 1. A Catalogue of the Books.
- No. 2. A Catalogue of the Manuscripts, Drawings, Engravings, Paintings, Models, and all other articles.
- No. 3. A list of all Donations, Bequests, Books, or other articles presented to the Society, with the date thereof, and the name and residence of the donor.

ARTICLE IV.

Rare and costly books shall not be taken from the Library Room. A list of such works as are to be withheld from circulation shall be made out from time to time by the Library Committee, and placed in the hands of the Librarian.

ARTICLE V.

No more than two volumes shall be taken out by any member at one time, or retained longer than three weeks; and for each volume retained beyond that time a fine of ten cents per week shall be paid by the person so retaining it. And a fraction of a week shall be reckoned as a whole week in computing fines.

ARTICLE VI.

Every Book shall be returned in good order (regard being had to the necessary wear thereof with proper usage), and if any Book shall be lost or injured, the person to whom it stands charged shall, at the election of the Committee on the Library, replace it by a new volume or set, or pay for it at its value to the Society.

ARTICLE VII.

All Books shall be returned to the Library for examination on or before the first Saturday in July, annually, and remain until after the third Saturday of said month, and every person neglecting to return any Book or Books charged to him as herein required, shall pay a fine of twenty cents per week, for every volume so retained. And if at the re-opening of the Library, any Book shall still be unreturned, the person by whom it is retained shall pay for the said Book or set, as provided in Article VI, together with any fines which may have accumulated thereon; and a notice to this effect shall be forthwith mailed to him by the Librarian.

ARTICLE VIII.

No member shall loan a book to any other person, under the penalty of a fine of \$1.00.

ARTICLE IX.

When a written request shall be left at the Library for a particular Book then out, it shall be retained for the person requiring it, for one week after it shall have been returned.

ARTICLE X.

Every book shall be numbered in the order in which it is arranged in the Books of Record, and also have a copy of the foregoing regulations affixed to it.

UNIVERSITY OF
MASSACHUSETTS

GODELL
LIBRARY



Per ~~January~~ 26
1882

THIS BOOK-PLATE IS A GIFT OF DR. WILLIAM GODELL

THE FARMER'S MAGAZINE.

VOLUME THE SIXTH.

JANUARY TO JUNE, MDCCCXXXVII.

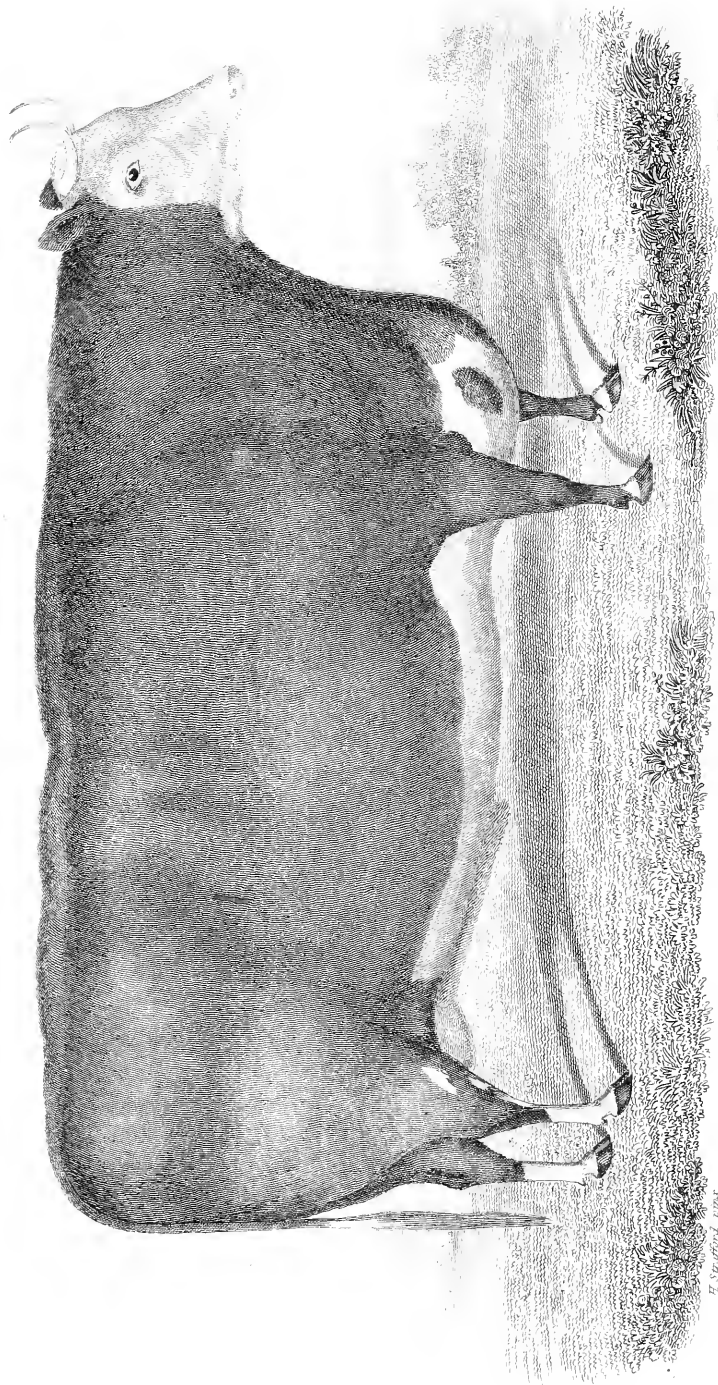
LONDON:

OFFICE, 19, OLD BOSWELL COURT, STRAND.

MAY BE HAD BY ORDER THROUGH ALL BOOKSELLERS.

LONDON:
PRINTED BY JOSEPH ROGERSON,
24, NORFOLK-STREET, STRAND.

June 25, 1953



J. W. Barber sculp.

HELFORD OX,

The property of the Marquis of Tavock, exhibited at the Smithfield Show, 1836.

London, Published by J. Egerton, Jan. 2, 1837.

H. Stanford fecit.

THE FARMER'S MAGAZINE.

JANUARY, 1837.

No. 1.]

[VOL. VI.]

THE PLATE.

The Hereford Ox, the subject of the Plate, was the property of the Marquis of Tavistock. It was exhibited at the late Smithfield Show, and obtained the Gold Medal, and a Premium of Twenty Guineas, as "the best Ox of any breed, without restriction as to feeding." A Silver Medal was also awarded to Mr. John Verney, as the breeder.

TO THE AGRICULTURISTS OF ENGLAND.

GENTLEMEN,—Mr. Shaw Lefevre's Letter to his Constituents, coming from the chairman of the late agricultural committee, must be considered as an address to the agriculturists of England generally. Mr. Lefevre has now laid his own view of the evidence, his own opinions, wishes, and expectations before the tillage farmers; and as many of these are, possibly, quite as competent as himself to form an opinion as to the cause or causes of their depressed state, and the best remedies for it, some of them will, it is hoped, publish the result of *their* reflections. Belonging myself to that unfortunate and apparently doomed class of men, I shall not hesitate to make known my view of the subject, and to point out whatever may seem untenable or objectionable in Mr. Lefevre's publication. Of this gentleman I know nothing at all, but from his letter, from which it appears to me evident enough, that he belongs to the free-trading school of philosophers; a sect, whose leaders have ever been hostile to landed property and agricultural industry, in this country; arising, perhaps, from some mental obliquity, which I leave to the phrenologists to explain. Such, however, being the fact, it behoves us to be very cautious how we trust to their authority or opinions; and even in Mr. Lefevre's case, I think he would have acted a more manly, as well as a more consistent, part, if he had, at once, proposed to establish, at some fixed period, a free trade altogether in corn, and in every other commodity, instead of trying to take away piece-meal, the very moderate protection afforded by the present corn laws; leaving, at the same time, untouched, such ample protecting duties for all the other producing classes. Events have indeed shown that the protection afforded to the farmer by corn laws, has been greatly over-rated, and that the monetary system adopted has had far greater influence on his fate, still they give some protection; they are a security against importation of corn at very low prices, which might, otherwise, sometimes occur. But perhaps the public as consumers, are quite as much interested in corn laws as the farmer; for although the usual price of corn would probably be lower with open ports, than under restriction, the *average* price might not; and considering the corn regulations of most other countries, and the practice among some of them, of levying duties on their exported corn, when most in demand, there is no certain dependence on obtaining a large foreign supply, in a time of great and unexpected demand, which must sometimes happen with a bad crop at home, after such a greatly contracted breadth of tillage, as would certainly be the result of unrestricted import. Mr. Lefevre,

indeed, thinks that no considerable extent of land will cease to be cultivated with wheat at 50s a quarter, and *he* may possibly say the same thing of a free trade, but every real farmer must know better; and Mr. Malthus is right in saying, "In all progressive countries the average price of corn is never higher than what is necessary to continue the average increase of produce." The expediency of restriction, or no restriction, taken in all its bearings, as regards the farmer and the public, is, indeed, a very difficult question to decide, and as it will perhaps be put to the proof, those who are friends to the land and to agriculture, ought to insist, that all taxes and burdens be more equally apportioned, than at present, among the different classes of the community; and that if there is to be an open trade in corn, that there be an open trade also in all the products of industry; for this, surely, cannot be inconsistent with the abstract theories of perfectibility, which seem likely to prevail.

Of the savings in local burthens, noticed by Mr. Lefevre, I shall observe that those *to be* made in the county and highway rates, cannot give much relief, and from the amended poor law I expect more moral than pecuniary benefit; for if less is to be paid in the rate, more should and must be paid in the shape of wages, otherwise the labourers will be unable to maintain their families. Great stress is laid on the commutation of tithe, by Mr. Lefevre, but when agriculture is in a transition state, and land likely to go out of tillage, it is a very hazardous measure, and may be productive of much hardship and injustice.

Mr. Lefevre dwells much on the supposed better system of management of the Scotch farmers, and a general statement is given of the comparative acreable expense of tillage; but this can prove nothing unless the particulars were all known, viz. the proportion of arable, pasture, and coppice land, wages of labour, and above all, local burthens. Poor rate and tithe have always been and doubtless now are, much lighter in Scotland than in England. Breeding and fattening of stock may pay more than growing corn at the late prices, but these things soon find their level.

The degree of importance attached to the subsoil plough seems marvellous enough, and the opinion that it is an improvement equal to the introduction of the turnip system, savours strongly of the extravagant and the ridiculous.

Mr. Sandars in his evidence before the committee, deprecates in strong language, any departure from a fluctuating scale; Mr. Lefevre wishes for a fixed duty, yet he produces Mr. Sandars as a great authority on the corn laws.

Mr. Lefevre says (page 24), "We now find it (wheat) may be grown to a profit, according to the testimony of some persons, at 40s; and several witnesses of

great intelligence concur in considering a price varying from 50s to 56s to be quite sufficient." This is very unandid; who are the persons who fix on 40s, and what is their opinion worth on this point? I would ask too, is there not a great preponderance of evidence shewing that "a price varying from 50s to 56s 'is not' quite sufficient." The question is not whether *any* land can be cultivated at 50s or 56s, but *how much* and what quantity must go out of tillage at such prices? "Every thing, however," says Mr. Lefevre, "must depend on the skill of the farmer, the productive quality of the soil, and the rent he binds himself to pay." This is a very confined view of the question; *rent* is an important consideration for individual farms, but it has nothing at all to do with the general or market price of corn, which is regulated by the cost of its production on the worst class of soils in tillage at the time, and these always pay little or no rent.

"The existence of distress in the agricultural districts," says Mr. Lefevre, "was in a great measure attributed, by several most respectable witnesses, to the resumption of cash payments in 1819, and to an undue contraction of the currency; which, with the exception of those years in which there was an extensive issue of one pound notes, has prevailed since that period." Mr. Lefevre is rather shy of entering into this subject; but can the above statement be disproved? Can it be denied that the average price of wheat has been falling lower and lower from 1819, down to the end of 1835, coincident with the contraction of the currency? The average price of the three years 1817, 1818, and 1819, (all fair average crops,) was 83s 11d, and the average of Bank of England and Country Bank paper circulation, for that time was £44,419,316. The average of the paper circulation for the next eight years ending with 1827, was £30,969,694, and the average price of wheat 57s 1½d, being in both a fall of more than thirty per cent. In the following period of eight years ending with 1835, the paper currency has been further reduced, and the average price of wheat has also fallen; not, indeed, in proportion to the currency, because the crops *on the whole period from 1827 to 1835, have been rather below the average, whereas, on the whole period from 1819 to 1827, they were rather above, the average.*

I know not what Mr. Lefevre means by asserting (page 35), that "the consequences of the Act of 1819 were aggravated by the sudden transition from war to peace," considering that the war was ended four or five years before that "Act of confiscation" passed, and that the price of corn, and general prices, continued high up to that period.

"Whether any depreciation of the currency should be attempted" *now*, is a grave question. Mr. Lefevre objects to it, because he says the rents, and the cost of cultivation would rise, and the farmer would receive no benefit thereby. This is assuming that these have fallen equally with the rise in the value of the currency; but is this the case? have rents, the cost of cultivation, and *taxation* fallen proportionally? Every one knows the contrary.

Mr. Lefevre thinks, if the suggestion of Mr. Sandars were adopted, (to reduce the duty 10s per quarter), that an average for wheat, varying from 50s to 56s might be sustained without difficulty, and that if half the malt duty were repealed, this average would be greatly augmented. But this is matter of opinion; and Mr. G. F. Muntz, a very intelligent witness examined by the Lords' committee, makes it appear that before the depreciation of the currency, and the Bank restriction act, when the same standard of money existed as at present, a bushel of wheat was usually equal in value to an ounce of silver, and that this is still its value generally throughout Europe. From five to five shillings and sixpence, therefore, seems to be the natural price of a bushel of wheat, and this might be the average in England were the standard strictly adhered to, but so great is its injustice and its pressure on industry, that continual attempts are made by Joint-stock Banks, and other schemes, to counteract its tyranny, and thus is introduced a new element of uncertainty into prices.

It is true, as Mr. Lefevre observes, "that it is impossible for the manufacturing and trading classes to enjoy a long continued increase in wealth, and the agricultural interest not to have its full share of the general prosperity." But if the manufacturers have been prosperous it was in consequence of cheap corn and low wages, on which their prosperity depends. The export trade now regulates the price of every article manufactured, and it is impossible for goods manufactured here at high rates of wages, to sell in competition with the manufacturers on the continent, where food and wages are low. Wages here then (metallic wages) must be low; and if these are low, so must be corn and the produce of land generally; but how then can heavy taxation be borne? High METALLIC prices can never be sustained, high nominal prices might, and the taxes be paid in their just value. It is here that Peel's bill pinches; we have seen above that after it passed, the average reduction of currency and of price, at the end of eight years was more than thirty per cent.; so much then, at least, was added, VIRTUALLY, to the public debt and taxes, and to all private debts, rents, and other fixed payments, by that celebrated piece of legislation, —disprove it who can! In conclusion, what I must insist on is this; first, that with the heavy taxation of this country, neither agriculture nor the country generally, can prosper with low prices; secondly, that low prices are unavoidable, if the present standard of money is strictly adhered to. I am, gentlemen, your sincere friend,

T. F.

December 12th.

PLOUGHING ON CLAY SOILS. — The landholders of the clay soils of the Weald of Sussex, will after the first three dry days, have an opportunity of observing the progress making with one of the subsoil ploughs (invented by Mr. Smith of Deanston, near Stirling, N.B.) upon clay land, recently drained with Pearson's effective drain plough, at Knepp Castle farm: a combination which, if judging from the effects produced by deep drainage, and subsoil ploughing on the lands of Mr. Smith, at Deanston, and some of his INTELLIGENT and SPIRITED agricultural neighbours must, if applied to the clays in the Wealds of Sussex, Surrey, and Kent, be productive of equally important advantages—advantages to which the attention of the late Parliamentary Agricultural Committee was very much drawn, and which have been found in no degree exaggerated, on a close examination by Mr. Evelyn Denison, M.P. for Nottinghamshire, and by the subsequent inspection of his steward, and of one of his tenants, who returned from Deanston equally impressed with the great benefits resulting from deep drainage and subsoil ploughing, and of which the former is essential to the utility of the latter. The above statement will probably prove acceptable to such of our agricultural readers as possess sufficient spirit to practice as well as to examine into a system of tillage, so very opposite to the *too generally shallow ploughing* in the Weald of Sussex, compared with the tilth in the Weald of Kent, as well as in the best cultivated districts in Scotland.—*Sussex Advertiser.*

The two premiums of five sovereigns given by the Grantham Agricultural Association in the turnip classes, with sovereign sweepstakes subscribed by the competitors in each class, having been awarded for the best crop of Swedish turnips, to Mr. Healy, of Laughton; for the second best, to W. M. Sheild, Esq., of Frieston. For the best crop of common turnips to Mr. Robert Lynn, of Sapperton; the second-best to Mr. Sills, of Casthorpe. There were six competitors and subscribers of one sovereign each for the Swedish, and four for the common turnip prizes; and the competition was well supported.

THE GREAT AGRICULTURAL DINNER AT MARKETHILL.

(ABRIDGED FROM THE NEWRY TELEGRAPH.)

This dinner took place on the 17th instant.

The Earl of Gosford being now in Canada, and Lord Acheson being detained in England, the chair was taken, about six o'clock, by William Blacker, Esq., his Lordship's Land Agent. The room was completely filled by the successful competitors, as well as by the principal tenants on the Gosford and neighbouring estates, all of whom were invited, besides many strangers, who, taking an interest in the cause of agricultural improvement, had come from a distance to attend the meeting.

In the course of the evening the chairman announced that he had received a letter from the Marquis of Downshire, stating his Lordship's great desire to have been present, and that he had only been prevented by being under the necessity of attending the Down Hunt meeting. His Lordship, however, sent his Agriculturist, Mr. Holland, and two of his principal tenants, Mr. McAleavy and Mr. Westley McGarry, very intelligent men, who added greatly to the pleasure and instruction of the evening. Mr. Poole, Agent to the Earl of Ranfurley, came also from Dungannon, and Mr. O'Neill, from Verner's Bridge. The agriculturists from the Richhill and Drumbanagher estates, and many Gentlemen of the town and neighbourhood connected with the Gosford estate, were present; as were also Captain Barker, Mr. McKee, Mr. Manally, Mr. Simpson, Mr. Martin, Mr. Scott, from the Charlemont estate, and many others. Altogether the room was quite full.

The cloth being removed, the chairman reminded the company of the established rules of the meeting that no subjects of a political or controversial nature should be introduced, nor any toasts given except what had been sanctioned by the chair; and, after having regretted the absence of his noble employers, he proceeded to give the usual standing loyal toasts. Then followed—"The Lord of the Soil, his Excellency the Earl of Gosford." It is almost unnecessary to mention the enthusiasm with which this toast was received. The chairman then addressed the company, as follows:—

"Gentlemen.—Having now gone through our standard toasts, I proceed to commence the business of the evening by reading out the list of premiums. It is, however, necessary for me to premise that the object of these premiums being to introduce a system worth following for *its own sake*, his Lordship has desired, that where any person has been already three times successful, he shall merely obtain a certificate of merit, and that the premium shall be given to the next in succession. I am happy to see that this change does not deter those who have been heretofore principally distinguished, from continuing in the course in which they had commenced. I still see the names of Messrs. Ingram and Bartley Kinney, and am confident I shall again see Moses Greer, in the list, when he gets his new farm into order. I am happy to see, also, many new names introduced of persons who are coming forward as competitors, for the first time, and who will, I have no doubt, become better known to us hereafter.

"The premiums now to be awarded are for the best stock, and are adjudged upon a comparison of quality of cattle, quantity of food and size of the farms; and the premiums consist of rollers, ploughs, fans for cleaning corn, barrows, wheel-barrows, &c., which it will not hereafter be necessary to enu-

rate." Mr. B. then read the names of the successful competitors, in the following order:—

James Jenkins, of Drumgaw	1st prem.
Bartley Kinney had certificate for	2d do.
Robt. Beck M'Cantrim received, however, 2d do.	
James M'Connell, of Cornicrew	3d do.
James Collison, of Hamilton's-bawn	4th do.
Samuel Parks, of Lurgyross	5th do.
Joseph Thompson, Grayhilla	6th do.

According to the usual practice, the health of James Jenkins was given, as having obtained the first premium; and he was afterwards called upon to state what advantage he had derived from the plan he was pursuing: this he did in a manner very satisfactory to the company. He said—

"I am able to say, Gentlemen, that since I have followed the plan recommended by Mr. Blacker, I have been able to change my stock, with considerable profit to myself, from a very bad stock to a very good one, as my getting the first premium shows; and though I was then pinched to feed them poorly, I have now plenty to feed them well; and whereas I had only two cows, a heifer, and a pony formerly, I have now five cows, two heifers, and one good horse on my sixteen acres, kept on clover and vetches in Summer, on cabbage at this season of the year, and turnips in Winter and Spring. I prefer early York and sugar loaf, and flat Dutch cabbage to the curled kail, for they give more food at this season; and if the plants are put in about three inches under the manure, the potatoes can be dug out without injuring them, and as they grow into the trench they do not overshadow or injure the potatoe as the curled kail does. I am also happy to tell you, Gentlemen, that I find the produce of my farm is increased, as well as my stock. Formerly I could manure but an acre and a half of potatoes, and that but indifferently, but now I have this year four acres of potatoes and turnips manured in the very best fashion; and you all know the more manured land you have in the farm, the more grain you'll get out of it. Many gentlemen, from distant parts have come to see my farm, and I am always glad to see them, and have always something pleasing to show them. Gentlemen, I have nothing more to say, but that I am well content, and determined to persevere in the plan I have now been so much the better of."

Jenkins having sat down, Bartley Kinney, of Ballyorgun, was called on. He said—"I have upon former occasions mentioned, that by following the practice of house-feeding and green crops, I have benefitted greatly. I have added to my farm, I have added to my stock, and I have added to my crop; and although I am no longer allowed to compete for the premium, my certificate shows I am persevering in the same course, which I know is for my advantage."

Samuel Parks, of Lurgyross, being next called on, said—"I hold 4A. 2R. 20P. of land, at a rent of 4l 9s 2d: upon this I feed two cows; and after providing my family I have sold 7l worth of butter and milk, being one-half more than my rent. My cows are house-fed, and in capital condition, as my getting a premium shows."

After him, Joseph Thompson, of Grayhills, was called on. He said—"I have 11A. 3R. 0P. of land, and on this I have three cows, a heifer, and a horse. The half of my land was formerly in grazing, and my stock far inferior in number and condition. I consider the four-course rotation as an excellent plan, and mean to persist in it; and I think I will be able to increase my stock next season from the fine appearance my clover now has."

I should have mentioned that before calling on any of the premium men to give any statement as to their farms, the chairman cautioned them not to say anything they could not prove, as, most probably, if the day admitted of it, some of the strangers would visit their farms. The premiums for stock having been gone over, the Chairman remarked, that as so much in the management of stock depended on the females of the family, he had formerly been in the habit of giving as a toast, "Farmers' wives and farmers' daughters," but he would now make some little alteration, which, he hoped, would not be displeasing to the company, nor yet to the parties more immediately referred to. He would, therefore, call on them to fill a bumper to this toast—"May those who are *wives* be long so, and those who are not be soon so." This the company insisted on drinking with all the honours of three times three.

The CHAIRMAN then introduced the reading of the premiums for the best cultivated farms, according to the four-course rotation, by stating that the smallness of the quantity of land kept in grazing proved in a great degree, the profitable occupation of the rest of the land, and mentioned that the certificate had been given to Mr. Thomas Ingram, of Drumhoney, who I have, in former accounts, had often to mention.

The 1st premium was awarded to Michael Clarke, Hamilton's-bawn.

2d do., divided between Ruth M'Connell, Drumblack, and Robert M'Cammon, Drumminis.

3d, John Hogg, Drumgaw.

4th, Edward Wallace, do.

5th, James Ralston, Drumminis.

The list being read out, the Chairman reminded Mr. Ingram, who had got the certificate, how doubtful some of the company were formerly about the produce of his dairy, and asked him had he now the same thing as then to say about paying his rent thereby?

Mr. INGRAM, being thus called on, said—"Gentlemen, I cannot only say the same thing, but I can say better; I hold twenty-three acres of land, and nobody can say that I hold it too cheap, when I tell them I pay 25*l.* a-year rent. My stock is seven cows, two heifers, one calf, and two horses, and they are all in good condition; the butter has already produced 26*l.*, which is a pound over the rent, and I expect to make it 30*l.* before the year is out, as the price is so high. And I'll tell you more, Gentlemen, I had nine hundred stooks of excellent oats and an acre of flax, and all early in and well saved, so that I could make four times my rent off my farm."

This account seemed to give the greatest pleasure to all present, and Mr. Ingram's health was drank most cordially. The mention of the produce of Mr. Ingram's dairy afforded much surprise, as he keeps three farm servants, and must, therefore, have great consumption at home. The Chairman, however, said he understood there was another in the list that would surprise them still more. He then passed a high encomium on Michael Clark's farm, in which, he said, there was not the space of a single foot neglected; and also noticed Ruth M'Connell, who, by her own exertions, had made a small piece of ground (which had merely fed a goat before, and never yielded more potatoes than lasted until Christmas,) now to keep a cow right well, and supply potatoes for the whole year, and made 12 cwt. of oatmeal besides, from a rood and six perches of land—adding, that he was glad to hear her industry had got her a husband. He then called on John Hogg, of Drumgaw, who bore the same testimony as all others—

viz., to the increase of his stock from one cow and a heifer to two cows, a heifer, and a horse; to the increase, likewise, of the manure, and the increase of his crop, and his intention to persevere in what he found so beneficial. After him, James Rollston, of Drumminis, was called on, to whose profit, by butter, the Chairman had alluded. He stated that "he held 8½ acres, and that he had made, by selling milk and butter, 16*l.*, and by exchange of cattle, 2*l.*; that he had also the produce of four bushels of flaxseed (near two acres), and 130 stooks of oats: his stock consisted, through the Summer, of two excellent cows and a poney; he had saved off his clover and rye grass, four small cocks of hay, sufficient to make one six fathom cock, and had at present likewise two sheep." The Chairman here drew the attention of the strangers, and, indeed, all the company, to this extraordinary produce from only two cows—and Mr. Rollston was questioned very closely as to how he could realize so much by his milk and butter; when it was explained that he lived within about 2½ miles of Armagh, and sold his fresh butter there at 11d the pound, and his buttermilk at ½d per quart; and calculating at those prices it appeared that the money might very readily be made.

Mr. HERB, Steward at Gosford, here observed, that good keep the previous Winter tends greatly to increase the milk the following Summer, which all seemed to agree in.

Mr. WILLIAM MARTIN, addressing the Chairman, said that "John M'Connell, close to Gosford, had made 6*l.* from one cow, which was as much in proportion, and that he had improved his farm as much as any one on the estate."

The CHAIRMAN said he was fully aware of what had been mentioned—and, to prove the fact, he read a portion of a letter he had received that day from the Earl of Gosford, from Canada, in which his Lordship writes—"Do not forget to tell Jockey M'Connell (the name he is known by among his neighbours), how glad it made me to hear of his improvements in the management of his land."—"Now," observed the Chairman, "this extract shows you all, Gentlemen, how willing and attentive I have been in reporting the improvement Mr. Martin has alluded to; and it also shows another thing, which I alluded to in proposing his Lordship's health, namely—that although he might, in person, be far away, yet his heart was with us. In this statement I am, I think, fully borne out, by the kind interest he has shown in his humble tenant's improvements, at a time when he himself, as we all know, must be vexed and disheartened by the difficulties and annoyances which faction and party spirit throw around him."

Mr. BRUCE here said, that he knew John M'Connell had made more by his cow than Mr. Martin thought; he having sold two firkins of butter, and they must come to more money than 6*l.*

The CHAIRMAN here alluded to the great produce Mr. Ingram had derived from his farm, and added, "I am fully aware that this is not to be obtained by him, or by any other person, without very considerable additional labour; for, when the whole surface is under a course of cropping, it must naturally take more labour than when the half of it is in grass; but is it not evident that this labour is well remunerated; and what has been the complaint in Ireland for centuries, but a want of employment, and a want of remuneration for such employment as did offer? Here, then, seems to be the means of removing the complaint which has so long existed; and I must say, that many landlords from different counties in Ireland, seeing the thing, I suppose, in the same light

in which I have represented it, have been anxious that I should send them persons from this, to take farms upon their estates; but this plan of introducing better examples of industry has hitherto failed, from the apprehensions which people here entertain for their personal safety, in going among strangers, who they may chance to find hostilely disposed towards them: but it just occurs to me that the thing might be accomplished in another way, without any chance of failure, and I mention it here, in order that the idea may gain publicity. We all know that in Scotland, farmers, who have acquired a reputation for skill and good management, are in the practice of receiving apprentices, with very considerable fees, for being taken into the family and allowed to labour the farm, and learn a proper system of cultivation; and I really cannot help thinking that any landlord in the southern counties, who wished to have some of his tenants' sons properly instructed, should have recourse to the Scotch plan, and send them down as apprentices to such men as Mr. Ingram, or to such agriculturists as Mr. Bruce, Mr. Anderson, or Mr. Milne, where they would be taken round an estate of, perhaps, many thousand acres, consisting of every kind of soil, and might thereby receive much more general instruction than they ever could do in any agricultural school or any single farm whatever, and become qualified to act, on their return home, as agriculturists." This idea seemed quite new to the company, but they all appeared sensible of its great utility if carried into effect. Capt. Barker here said, that he knew the interest taken in the southern counties, as to the agricultural improvements carried on in this neighbourhood, was greater than could be well imagined; and that a friend of his, from county of Cork, would have been very happy to have been able to attend the present meeting.

Mr. W. M'GARRY, from Lord Downshire's estate, also observed, "that Mr. Ingram's name had gone farther than ever he could go himself; for he took many English and Irish farming publications, and in all he had seen mention of Markethill, and of him and others who were distinguished as premium-men."

Mr. M'ALEAVY, from the same estate, here rose and begged to remark, that he had an objection to the four-course rotation, which was getting so much into use here, and that he found the 5th-course more desirable, as by letting the land lie under clover and grass a second year the land got more rest.

The CHAIRMAN defended the four-course rotation, by showing, that if, as Mr. M'Alcavy said, the five-course gave more rest, the four-course gave more manure; that the same stock could not be kept on the five-course, nor the same number of cattle would not yield the same quantity of manure, on account of the loss by being pastured in place of being house-fed; likewise, that the grain crop, after clover which had been soiled, was always better than what was grazed. Mr. M'Alcavy did not at first admit this; but the Chairman shewed that, under the four-course system, the half of the land was under grain, but in a five-course, one-fifth being always under pasture, and another fifth applied to soiling, there could only be three-fifths remaining for grain and fallow crops, as potatoes, turnips, &c., in place of three-fourths, which would remain for those crops under the four-course. Mr. M'Garry having expressed his opinion as to the crop, after clover which had been mowed, being better than after it had been pastured, Mr. M'Alcavy conceded this point, but still seemed impressed in favour of the five-course rotation, in which several of the company seemed to join, though Mr.

Bruce, Mr. Ingram, and Mr. Jenkins all agreed that their land had greatly improved in quality since the four-course system had been adopted.

Mr. SIMPSON, an experienced independent farmer, expressed his belief that the quality of some lands might suit one course, and that of others a different; and Mr. Blacker acknowledged that in Berwickshire the five-course was in use; but, in regard to Berwickshire, the farmers, by sowing their turnips which may be said to be their entire fallow crop, on bone dust, keep their farm-yard manure for top-dressing their clover, which makes the second year's growth more productive; and the use of turnips in fattening, in Winter, with the quantity of bone dust, more than makes up for what is lost in the manure by grazing, so that a Berwickshire farmer had said that he manured *half his entire farm every year*.

Mr. BLACKER, in his pamphlet, suggests that it is not the turning of the land, but the scouring crops put in where the land is turned, that does the mischief: and he instances that land after being turned five, six, or seven times in following, will give a good crop, when without this turning it would have yielded nothing. I am inclined to be of this way of thinking, for it is a common expression to say of a farm that it is "as fruitful as a garden," as describing the perfection of agriculture; but a market gardener makes his land produce four or five crops in the year, and is turning it perpetually, and this near all large towns has been going on for centuries. I therefore am inclined to believe the turning of land is not so prejudicial as people think, and I believe in the counties of Norfolk and Suffolk, where the four-course rotation has been many years practised, the soil is improving.

Mr. M'GARRY, without giving any decided opinion on the subject in discussion, begged to call the attention of the company to the danger of sowing clover too often under the four-course system, and recommended, from his own experience, that only part of the manured land should be sowed in clover, and the other half reserved for vetches, and by alternating these two crops, the summer feeding might be kept up, and yet the clover would not come round to the same land in less than seven or eight years.

In this the CHAIRMAN coincided, and said it entirely agreed with the instructions given by Mr. Bruce, but he was afraid it had not been enough attended to, as clover was, in fact, but a new crop, generally speaking, and the four-course system had not been long enough in use to bring the thing to the proof in this neighbourhood. He therefore strongly recommended this hint to the attention of all present; and after thanking Mr. M'Garry for the suggestion, he proposed as a toast "Live and learn." He then proceeded to read the list of successful competitors for the best turnips: when it appeared that Mr. Bruce had the certificate for the best crop. The 1st premium, however, under the new regulations went to Robt. Mitchell, Drumbucross; the 2d to Jonathan Cochran, Cabra; the 3d to Thomas Singleton, Drumblack; the 4th to Joseph Forster, of Ballyorgan. The Chairman, in giving the health of Mr. Bruce, requested him to say how it happened that his field of turnips was quite green, without a single yellow leaf, and Mr. Singleton's at the opposite side of the road, was quite yellow with the number of leaves that were decayed.

Mr. BRUCE—"Gentlemen, this is very easily accounted for. Mr. Singleton and almost all others think, when the leaves begin to cover the ground, that the horse-hoe or pony-plough is no longer necessary, and that the horses travelling through will in-

jure the crop. Now, I think the reverse; and I ran the pony-plough three times through mine after they had attained the growth that Mr. Singleton and others stop at. The consequence is, that mine are still in the height of their growth, and will grow on until Christmas, whilst theirs are stunted, and will not yield within one-third of the weight they would otherwise have done."

The CHAIRMAN here adverted to the advantage of turnip feeding, and expressed his surprise that so many people would be so blind to their own interests as not to see the advantage of it. He stated that a rood of well cultivated turnips would yield from 8 to 10 tons, or even much more, supposing the crop to be part white, yellow, and Swedish. This, therefore, would give from 80 to 100lbs a day for a cow for seven months, or 210 days. Now, even a springer will give two quarts of milk more upon turnips than upon either hay or straw. A striper might increase four, and a new calved cow would give seven or eight quarts more; but taking it at two quarts, which is the lowest, these two quarts are worth 2d per quart all the Winter and Spring; and 4d per day for 210 days is exactly 70s gained in extra milk by one rood turnips, which is 14l to the acre. Thus the extra of quantity pays 14l per acre for the turnips, and you have all the cow would have given without them for nothing, or next to nothing, and the manure besides. This is as plain as that two and two make four, and yet it would appear that people could not see it.

Mr. PARKS here rose and said, he had bought a springer that did not give two pints, and upon giving her turnips she gave four quarts.

ROBERT MITCHELL being next called, said his farm formerly produced him no more than about 8l 16s, which was the rent he then paid: he now had to pay more, but by the new system he had last year made 44l 5s 4d out of it, leaving plenty of food for himself and nine of a family. He had also increased his stock from one cow to three cows and a horse; and he saw clearly that by going on as he was doing, he could have three times as much potatoes, oats and flax as ever he had formerly.

"The Soiling System, cut and come again," was then given.

The premium list for rape was then read over, by which it appeared—

Mr. Anderson, of Drummard,	got the 1st prem.
Edward Coyne, of Drumgaw,	the 2d do.
Thomas Scott, of Dirlet,	the 3d do.

Mr. Anderson bore testimony to the advantages he had derived in the increase of his stock and crops.—He stated he had sowed his rape in August, after flax, and that he had saved this year twenty-five bushels of winter vetches seed from less than an acre of land.

The CHAIRMAN here pointed out the necessity of early sowing both rape and winter vetches, and that not a moment should be lost in putting them in even, ridge by ridge, as fast as the ground could be cleared of the crop preceding—observing that a week in August was worth the whole month of October. He also noticed that Mr. Anderson had made near 12l an acre by his vetches, and recommended the more general sowing of that crop for seed.

Mr. M'Kee, the Vice-President, here took the opportunity of the premium sheet being ended, to give the health of "Lord Acheson," which was received by the company with the strongest manifestation of attachment. The Chairman said the dinner had been long postponed on account of his Lordship's desire to be present, but after the day had been fixed he had been confined by a severe cold which prevented him from travelling, and confined him to his room.

"The unsuccessful Candidates, and better luck to them next year;" and "the judges of the day," were given as toasts by the Chairman, after which succeeded—"Mr. Poole, and our other Agricultural friends who have honoured us with their company in such dreadful weather."

Mr. POOLE returned thanks and expressed the most anxious desire to unite in promoting the improvement of agriculture by every means in his power.

The Chairman here premised that he was afraid he might be accused of remissness in not giving at an earlier period the health of the Marquis of Downshire. He certainly was entitled to every compliment which this meeting could pay him, not only from his wish to have honoured them with his company, and having sent his tenants to join them, from whom they had received such valuable suggestions, but also from his personal character as a resident landlord, and his early endeavours to promote education and agriculture, when other landlords were in most cases indifferent to both.

The "health of the Marquis of Downshire" was then drank with three times three, and was ably responded to by Mr. M'Alcavy, who bore most satisfactory testimony to the many good qualities of his landlord.

"Live and let live" was then given from the chair; after which Mr. M'Kee gave the health of "the Chairman, William Blacker, Esq.," introducing the toast by many compliments to that gentleman upon the success of his efforts in promoting the agricultural improvement of the Gosford estate.

Mr. BLACKER, in reply, said—"Gentlemen, I have upon many former occasions endeavoured to express the grateful sense I have always entertained of the kind reception which the toast last drank has constantly met with from this meeting; and I may safely say, that at no former period has this feeling been exceeded, or my gratification higher, than at this moment, however imperfectly I may be able to give those feelings utterance. I see, or I think I see, in the kindness shown towards myself, as well as from what has fallen from my friend Mr. M'Kee, the interest which you take in the success of that system which I have advocated, and from the success of which has arisen those statements of increasing comfort and prosperity which must have afforded you all so much sincere pleasure to hear. I trust therefore, as friends to the cause, you will allow me to say a few words in its defence, against those charges which are sometimes brought against it, and which lead many to doubt of its eligibility. The charges I allude to are these; that by allowing these small farms, the population will be increased, until the country shall be overwhelmed with inhabitants; and secondly, that the system, on this account, tends to such minute subdivision of land, that the farms will be at last reduced to mere pauper allotments. Many sensible and well-meaning men hold these opinions; but *no such consequences* are, in my mind, to be apprehended. In alluding to the first charge, I must beg to have it recollected, that the population any landlord has now to deal with is a population already in existence, and, therefore, not chargeable against the system we are alluding to, the operation of which must refer solely to the *future*. Now you have heard the declarations of those who have been most successful in adopting it, as to the increased comfort and prosperity they have enjoyed thereby; and if you examine the reports of the different poor law commissioners, and official documents, of every kind, you will find it proved by all concurrent testimony, that the population increases in direct proportion as *poverty exists*, and that the possession of comfort in

in their fathers' cottages deters young people from forming imprudent and early matrimonial connexions, by which those comforts will be forfeited. If you look round in the society you will find that, as the scale ascends, the more cautious and considerate are the parties in forming matrimonial engagements—so that, in exact proportion as you increase the comforts of their parent's home, young people are the less disposed to forfeit them by having families of their own, without the means of supporting them. Therefore, you see, my friends, by giving people a greater taste for comfort, you check early marriages, and consequently check that increase of population, which is erroneously brought as a charge against us. Now, let us see how the charge is met as to the subdivision of farms; and here I have no occasion to enter into theories or conjectures, but merely refer you to facts which are perfectly well known to almost every man present, strangers excepted. What I allude to is this; that there is not a man who has distinguished himself by his advance in the system who has not *enlarged* his farm by that means, or if not, is only waiting for an opportunity to do so. You all know Moses Greer; you know he began upon four acres of land—he has now in his possession above nineteen acres: the greater part of it held by an old lease, at a low rent, and when he gets it into heart it will be worth from 200*l.* to 250*l.* He is, in fact, reuniting parts, I think, of the same lease that had been years ago divided. Within a short distance of him is Bartley Kinney, who has added about ten acres to his farm. Then there is Rollston of Drumminis; he has re-united the farm he lives upon, and has got double what he had, and is now in treaty for more. John Hogg, of Drumgaw, in like manner; Thomas Scott, also, and many others; but these men are here present, and ready to answer any questions that may be asked them. It is true the landlord has assisted their exertions, but they have repaid him, and any landlord is blind to his own interest that lets an honest industrious tenant want any help he can reasonably ask. I mention these because they are in company, but there are scores who are coming forward, year by year, who are all upon the look out to add to their farms. The fact is, capital will always find a place for itself somewhere or other, and the man who has more money than his place will employ, will soon buy from his neighbour or fit himself elsewhere. Whoever removes we may be sure it is to benefit himself, and those who stay behind have the opportunity of increasing their holdings by the addition of what he leaves; this is the natural effect of the prosperity of any tenantry—as they get capital they become quite as anxious as their landlord to have their farms enlarged, and with the desire they have also the means. The examples you have before you shew this to be the case, and I would fondly hope that landlords everywhere would be convinced that the natural tendency of every improvement in agriculture, goes to the accomplishment of their wishes for the enlargement of their farms, and that they will turn their minds to effect what they so much desire by this means, and wholly abandon the clearance system which some may have adopted, however contrary to their feelings, in despair of accomplishing their object in any other way. These facts and arguments will, I hope, tend to do away prejudice where it may still exist; but I am happy to say, from the number of applications I have for agriculturalists, that all prejudice is fast declining, and I expect, before long, to see the plan we are following, or some modification of it universally adopted. From the interest I take in its success, I fear I have detained you too long, but I trust you will pardon me, and that we shall all live to

another anniversary, and be able to congratulate ourselves on its further extension. I think I know myself of between sixty and seventy Agriculturists having come over from Scotland, and it is not too much to suppose that I am not personally acquainted with the one-third of those who may have been engaged for the purpose of improving estates; and as they are generally placed on large properties of 10 or 15,000 acres, it is not perhaps going beyond the mark to say that there must be in Ireland from a million and a half to two millions of acres, upon which the system is more or less in progress, and I have at this moment orders for five more agriculturists, whom I have not yet been able to procure. The Chairman here concluded by giving as a toast “The Town and Trade of Markethill.”

The CHAIRMAN then gave, as a toast—“The improving tenants on the Charlemont, Richhill, and Drumbaughier estates”—which was replied to by Mr. Anderson, who mentioned the encouragement given on the Richhill estate, both by reduction of rents, premiums for crops, and assistance in repairing houses. He also mentioned that since the return made last year, the house-feeders had increased upon the estate fully one-third.”

The CHAIRMAN said—“Let us now come to the consideration of the subjects proposed for discussion, in which list I perceive the management of the flax crop stands first. In regard to this, it has been imagined that lime was prejudicial, and that ridge potatoe ground gave the surest promise of a crop. Now, I find Mr. Herd and Mr. Rennox can bear testimony to good crops, where nothing but lime had been used as a manure; and Mr. Bruce can do the same, and also show that turnip ground had yielded as fine flax as any other. Mr. Rennox has given us a statement on paper, which I beg to read—(See letter No. 1)—it alludes both to the *watering* as well as the cultivation, and I understand from Mr. M'Kean that upon this process the quality of the flax greatly depends. Mr. M'K. says that he never, at any period, has got less than 9*s.* a stone for his flax. This is a most important consideration; for the Russian flax in the English market destroys the demand here for the low qualities, except at a price which will not pay the grower in this country, and if we do not improve the cultivation, so as to produce a finer description, we will lose the crop entirely. I think I last year said the same thing, and recommended the farmers not to go to an extreme in the cultivation, and many now, I fancy, would be glad they had taken my advice. The loss of an acre of straw is the loss of half an acre of well-manured land, so that to cultivate an acre of flax (which leaves no straw) to advantage, it ought to pay the price, not only of an acre of grain crop for that year, but also the value of the half acre of manured land, which the farm will be deficient in the following year.” Mr. B. having made these observations,

Mr. M'KEE rose and said, that in many farms the water was of such bad quality, that the quality of flax was spoiled; both bog and marle water were very injurious. Mr. O'Neill said, that he had put his into stooks, and had built it into a stack, intending to thresh out in Spring, and water when the weather got warm. Every one admitted this was the true way of saving the seed, but it was thought the flax would be coarse; but Mr. M'Garry said, the best and finest crop of flax ever he had was treated in this way. To build the flax upon a bottom of hay was suggested as a good plan to defend the seed from vermin.

The CHAIRMAN next introduced the subject of butter, and said—“We now come to the considera-

tion of the curing of butter for the English market, so as to rival the Dutch. From the short distance between Holland and England, the Dutch had for many years the possession of the London market, for butter almost fresh. The introduction of steam has now given us the same facility of supply that they formerly enjoyed exclusively; but we have not yet found out, generally, the advantages of preparing our butter for export as fresh as it might. A beginning, however, has been made at Waterford, and I shall read you a letter on the subject from that place, as well as some other information I have collected—(see letters at foot, Nos. 2 and 3.) It would be most desirable if the butter buyers would ascertain exactly how the article would sell best, and publish their instructions—and as the packets sail now regularly from all the ports on the east coast, I venture to suggest that the stewards or owners would make handsomely, by taking it over in small packages, which might easily be had of any size in wood or earthenware, they might be most marketable.”

Mr. INGRAM said, that an ounce of salt to a pound, was the quantity put into his butter, of the very finest he could get, and that those who put in more had often their butter marked seconds. Less salt, however, might do when the package was small and could be made up quickly.

After this, the subject of the respective merits of Italian rye-grass and rape, as spring feeding, was considered; the Chairman observing—“We have as yet but imperfect acquaintance with the former, but what we do know of it is highly in its favour; by way of gaining a perfect knowledge of it, I sowed it, upon its first introduction, in Gosford demesne—but it is so sweet, the hares and rabbits kept it down in such a way that no fair trial could be made. My own opinion is, that if it got the same manure that rape requires, it would be fit for soiling with by the middle of April, if sowed in August, and it would have the advantage of growing up again, to supply the place of vetches for the cattle, between the cuttings of the clover, and again to come in after the clover in October. These would be great advantages, and would compensate for its not yielding so heavy, and perhaps not quite so early a crop as the rape. If sowed on good land, in February or March, with perhaps a little lime, I have no doubt it would cut as soil in July, and again in October. I shall read you what information I have got respecting it from Messrs. O'Neill and Rennox. I shall be glad to hear if further can be supplied by any of the company. I mean to endeavour to procure some seed, before Spring, for those to try who may be so disposed.”

Mr. O'Neill produced samples of it in different stages of the growth, and gave in statement, No. 5.

The company were much surprised at the statements made of its speedy growth, and several took home samples brought by Mr. O'Neill, to transplant and get into the seed.

The all-important subject of the means of preserving seed potatoes was then brought forward by the Chairman saying—“We now come to the important consideration of saving seed potatoes. As to the cause of the failure in that crop, I look upon it being still unknown. All that has been written upon it may be replied to by saying that the practice of late years has been the same as 100 years ago, and why should it be attended with failure now more than then. I look upon it, therefore, that we are still in the dark as to the cause, but that more care is now required than there was in old times is clear enough. Experiment is the only sure test to go by, and seeing that pota-

atoes accidentally left in the ground seem to grow without any failure, I recommend a trial, on a small scale, by leaving a perch or two undug, and to compare how they grew when planted out in Spring, with other seed that had been housed or pitted. I think it worth mentioning, that I have heard from several, that if the seed is cut and left for a few days there will appear a speck, or blackish spot in the heart of those which will not grow, being the first symptom of decay; this is, I think, fully acknowledged—but then it is met by Mr. Bruce, who says he planted out of the same basket in the morning and evening, and one planting grew and the other did not. The only way I can reconcile this, is by supposing that at one time of the day the soil was in a better state to hurry on the growth than at the other, and that the sets had taken root, therefore, in one case before the rot destroyed them, when they did not in the other. This seems to me the only way of accounting for it, and likewise for the general opinion that whole potatoes are more certain than cuttings—namely, that there is a better chance of the plant taking root, as the whole potato will be slower of rotting than the cutting, and therefore leave more chance of the shoot taking root—but I should wish to hear others on the subject.” After which a great deal of discussion arose.

Mr. Thomas Bell stated that part of a ridge of potatoes had remained all winter in the ground in his farm, and that he had set them in spring, and they had failed; but he acknowledged the sets had been left exposed to a burning sun the whole of the day, and that the ground was also quite parched. This appeared to the company to account for the failure; and six or seven persons in succession arose and said they had known potatoes planted that had lain all winter in the ground, and that not one had failed; and the opinion of the company seemed to be that Mr. Blacker's suggestion should be made the subject of further experiment, and that care should be taken to plant the sets in the soil, when moist, from being fresh turned up, and to avoid planting upon soil dry and parched.

It being now near twelve o'clock, the chairman proposed to drink to their next happy meeting, and upon his departing the company immediately separated. The entire evening was devoted to interesting discussions, which created universal interest, and the lapse of time was unnoticed.

[The statements referred to, shall appear in our next.]

ISLINGTON CATTLE MARKET.—A public meeting was advertised to be held at the Freemasons' Tavern, on Tuesday, at twelve, for the purpose of taking into consideration the best means of establishing the Islington as the great metropolitan market. This meeting was called in consequence of an alleged combination existing by persons interested in upholding Smithfield market, to induce graziers and salesmen to decline transacting their business at the new cattle market. At half-past one not more than fifty persons were present, and these gentlemen becoming impatient, a gentleman of the name of Dawson was induced to take the chair, who announced to the meeting that letters had been received from Earl Fitzwilliam and Mr. Pym, regretting that business of importance prevented them being present, as also numerous other gentlemen favourable to the new establishment. These circumstances, together with that of a large public meeting of agriculturists having taken place at the same hour at the Crown and Anchor Tavern, induced the chairman to recommend that the meeting should stand adjourned until some more convenient opportunity should present itself, which recommendation was adopted, and the meeting then broke up.

BATH AND WEST OF ENGLAND SOCIETY FOR THE ENCOURAGEMENT OF AGRICULTURE, ARTS, MANUFACTURES, AND COMMERCE.

The adjourned November meeting of this Society took place on Monday, Dec. 12, at Hetling House, Sir Thomas Lethbrige, Bart., V. P., in the chair, when the business to be brought forward at the annual meeting was discussed and arranged. The annual meeting took place on Tuesday morning, at 11 o'clock; Sir T. Lethbrige, Bart. in the chair. Walter Long, Esq., M.P., was elected a vice-president, in place of the Right Hon. Earl of Kerry, deceased.

After going through some ordinary business,

Capt. SCOBELL rose to propose a new premium in class 6. It was as follows:—

“To three labourers, in the Western counties, being above the age of 45, who shall show by full and well authenticated written testimonials, that during their whole lives respectively, they have not been convicted of any breach whatever of the laws of the land, and that during that period they have severally been of reputed sober and moral habits, and in all respects of good character: a premium each of 3l.”

Mr. STONE seconded the motion.

The motion was put and carried unanimously.

The report of the judges of live stock was read and confirmed.

Capt. SCOBELL proposed an alteration in the new premium placed in the society's list in 1835, on the subject of the comparative excellence of plough and spade husbandry. He regretted that there had been no claimant of this premium, and he thought the reason was that the trial was required to be made on too large a number of acres (twelve). He would move that the number be reduced to six.

Mr. DAVIS seconded this motion, which was carried.

Mr. DAVIS moved that to the premium No. 4, class 6, relative to rewarding deserving labourers under circumstances therein described, should be added the words “regard being had to the weekly wages which they have received.” The proposition was seconded by a gentleman whose name we could not learn.

The CHAIRMAN in putting this resolution to the meeting, made some remarks on the rate of wages paid to labourers. He said that the rise which had taken place in all kinds of produce—including that kind which was required for the sustenance and comfort of the labourer—ought to be considered in the amount of wages paid him. The altered state of the poor law afforded an additional reason why this subject should be thought of.—The motion was carried.

Mr. GODWIN moved an alteration in the premium ordered to be given in 1834. “To the writer of the best Essay on English Agriculture from the introduction of poor laws into Ireland.” He proposed that after “English Agriculture,” be introduced the words “manufactures and labour in general.”

Capt. SCOBELL said that a very important ingredient in the causes which kept down wages in England consisted in the importation into this country of destitute Irish labourers, tending to bring down to their own level the labourers of England. While this continued to be the case, and Irish produce was brought here under present circumstances, England would continue to suffer undue injury, and her agriculturists would be most unfairly oppressed.

Capt. Scobell then offered some remarks on the subject of wages, which he was happy to say were advancing. As regarded a poor law for Ireland, he would say that if opposition to such a measure were persisted in on the ground of the vast destitution which existed in the sister island, the population of that country would bye-and-bye be only one great mass of distress. The landlords' cry was, “Give us all our rents, but no poor law.” We had heard a good deal about “justice to Ireland,” but was it justice to the inhabitants of that country that they should be starved—was it justice to bid them to be patient, when the law did not afford them the protection which they had a right to claim? Capt. Scobell then read some extracts from the report of the late Government inquiry, by commissioners, into the state of the Irish Poor, showing the horrible destitution in which those unhappy beings are so deeply plunged. The farmers in every parish should get up petitions for the extension of poor laws to Ireland; the intelligent in the country and the intelligent in the towns should work together for the attainment of this most important object. Was it not most barrowing to think of the manner in which Irishmen were starved. We did not, to be sure, stife them like bees when their honey was taken, but the law starved them, which was nearly the same thing. The late Michael Thomas Sadler had shown that out of every million of people in Ireland, compared with the same number in England, 132,000 more attained the age of forty in the latter country than in the former. He (Capt. Scobell) for his part, could see no difference between starving a man, and putting a pistol to his head and shooting him. He begged to second the motion.

Mr. GODWIN said he was not aware that his motion would have had so much latitude given to it, or he would have suggested that this society should originate a petition for the establishment of poor laws in Ireland. He had some years since set on foot a petition on this subject, which no man laying just claim to the title of patriot could regard with indifference. It was a most striking anomaly in the condition of the Irish that they should be starving at the very time that the elements of life were being sent in such abundance out of their country before their faces. Remedial laws had been tried, but the evil had, nevertheless, now arrived at a most tremendous pitch. Coercion had been resorted to, but it had proved of no effect; nothing, in short, could afford the required relief but a poor law. He wondered that so much apathy prevailed on this subject; he was exceedingly surprised that no steps should have been taken to remedy the prevailing state of things. Was it not an anomaly that we should goad men on to crime, and then wonder that they should steal? He was happy to see this society taking up such questions as this—he was glad to see that it presented something more than the aristocracy of rank—something more than the aristocracy of wealth—something more than the aristocracy of influence; he was glad to find that it consisted also of the aristocracy of benevolence, which flowed from the highest and most sacred source. Mr. Godwin proceeded to say, that if he could be of any service in promoting a petition on this subject, he should be most happy; and he should like to see it emanate from this society, if such a proceeding were consistent with its rules. Let every man only do all he could in his own circle, and before this day twelve months poor laws would be introduced into Ireland.

—(Cheers.)

The motion was agreed to.

Mr. BAILWARD moved resolutions, the principal

points of which were that as the object for giving large premiums for fat stock had been in a very great measure attained, no premium of that kind should in future exceed 5*l*, and he proposed this in order that the society might have at its disposal funds to appropriate in other ways. He himself would suggest two objects—one, the improvement of dairy stock, and the other for experiments with the subsoil plough. After some discussion, Mr. Bailward's motions not being seconded, fell to the ground.

Mr. WILLIAMS, Veterinary Surgeon, of Bath, then explained his method of curing navicular lameness in horses, on which subject the society last year offered a premium of 2*l*. He stated that he had given 5*l* for a horse which had been condemned to the kernel, from being so afflicted with the lameness, and that in consequence of his treatment, the animal could carry him with ease twelve miles an hour, although, when it first came into his possession, it took five hours to travel eight miles.

After some observations from Dr. WILKINSON and other gentlemen, a premium of 2*l*. was unanimously awarded to Mr. Williams.

The proceedings of the Society's previous General Meetings of the year were then read by the Secretary and confirmed.

The Secretary then read the Report of the Committee of Superintendance, which on the motion of Mr. HARE was unanimously adopted, with thanks to the gentlemen by whom it had been drawn up.

A letter was read from the Mayor of Bath, enclosing a donation of 10*l*, and requesting the Secretary to insert his name in the list of subscribers for one guinea annually.—The thanks of the meeting were unanimously voted to his Worship.

The Secretary announced that Sir W. S. R. Cockburn, bart., had presented the Society with an engraved likeness of his late lamented father, Sir Wm. Cockburn, bart., which had been hung up in the Society's large room. The thanks of the meeting were voted for this gift.

The Secretary read a letter from W. M'Adam, Esq., on the subject of a Scotch cart and harness, which that gentleman had sent for exhibition.

The motion was seconded and carried unanimously.

The Secretary read a communication from Mr. F. Spencer, of Bath, on the subject of Kyan's patent for the prevention of dry rot in timber, &c., which it appeared, is effected by steeping the timber, &c., in a solution of corrosive sublimate, which combines with and neutralizes the albumen of the wood and the other substances for which the operations of the patent are intended.

Dr. WILKINSON spoke in very high terms of the patent, and most warmly recommended it for general adoption.

The CHAIRMAN said that he had seen the patent applied, and that he had been perfectly astonished at its results. It was a plain and simple process; in the highest degree worthy of the attention of the country at large.

Thanks were then unanimously voted to Mr. Spencer for his communication.

W. MILES, Esq., M.P., detailed to the meeting some most valuable information relative to the fattening of cattle on potatoes and bean-meal in clay soils, and shewed the great advantages of the process by describing the results of some experiments which had been made in the North of England. The statements of Mr. Miles excited very great interest, and the cordial thanks of the Society were voted to him. The meeting then separated.

THE DINNER took place at the Guildhall, instead of at the White Hart, as heretofore. Sir Thomas Lethbridge, bart., presided. The several loyal and appropriate toasts which followed the removal of the cloth were accompanied by animated speeches, and the evening passed off with the utmost harmony and good feeling.

PREMIUMS AND BOUNTIES.

We the undersigned being appointed judges of Live Stock exhibited for the premiums offered by the Bath and West of England Society, Dec. the 13th, 1836, do unanimously award the premiums and recommend bounties as follows:—

To Jos. Neeld, Esq., Grittleton House, Wilts, bull, cow, and offspring, short-horned breed, Sir. Benjamin Hobhouse's premium	£15 0
To Mr. Thos. Culverwell, Durleigh, Somerset, for a fat ox, Hereford breed, breeder and feeder, a premium of	15 0
To Mr. George Ferris, Shrivenham, Berks, for a fat cow, short-horned breed, feeder only, a premium of	8 0
To Mr. Aaron Pike, Milton, Worcestershire, for three breeding heifers, short-horned breed, a premium of	10 0
To Mr. Francis Frankcom, Little Badminton, Gloucestershire, for four fat wethers, improved Leicester breed, a premium of	6 0
To Mr. James Kearsley, Tarlton, Gloucestershire, for four fat ewes, Leicester and Cotswold breed, a premium of	4 0
To Mr. James Kearsley, Tarlton, Gloucestershire, for six breeding ewes, Leicester and Cotswold breed, a premium of	10 0
To Lord Viscount Barrington, for a boar pig, Norfolk breed, a premium of	2 0
To Lord Viscount Barrington, for a sow pig, Norfolk breed, a premium of	2 0
To the Marquis of Bath, Longleat, for a cart stallion, a premium of	10 0
To Mr. George Limbrick, Horton, Gloucestershire, for a fat cow, short-horned breed, possessing great merit, (breeder and feeder) a bounty of	4 0

EXTRA STOCK.

To Mr. George Ferris, Shrivenham, Berks, for two dairy cows, short-horned breed, (very good,) a bounty of	4 0
To Mr. Thomas Hales, Bath, for four fat oxen, Scotch breed, a bounty of	5 0
To Mr. Lavington, Hilperton Marsh, Wilts, for a fat pig, 14 months old, Chinese and Berkshire breed, a bounty of	1 0

ROBT. HUGHES, JOS. LUSH, ROBT. RICKMAN.

PLOUGHING MATCH.

FIRST CLASS.

To Mr. Deacle, the owner of the best plough, a premium of	£4 0
To John Broomfield, the manager of the best plough, a society's coat and buttons	
To Thos. Whatley, the manager of the second best plough, a society's coat and buttons	
To Thomas Hancock, the manager of the third best plough, a premium of	1 1
To Moses Dummer, the manager of the fourth best plough, a premium of	10s. 6d.

THIRD CLASS.

To Mr. James Hall, the manager of the best plough, a piece of plate, of the value of	3 0
To Mr. James Young, the manager of the second best plough, a premium of	2 0
To Mr. Richard Carter, the manager of the third best plough, a premium of	1 0

CHELMSFORD AND ESSEX AGRICULTURAL SOCIETY.

The annual exhibition of Stock took place on Friday Dec. 9. The judges of the rewards to deserving labourers and servants were the Right Hon. Lord Rayleigh, John Round, Esq., and Mr. George Abrey. The number of competitors in the different classes was large, and several of the cases were attended with circumstances of a peculiarly meritorious nature. About one o'clock the various candidates were assembled in front of a waggon filled with the supporters and officers of the society, and which was drawn up near the marquee, in the field where the prize stock was exhibited. The President briefly addressed them previous to the prizes being distributed.

Mr. GILSON, the Secretary, then read the award of the prizes as follows:—

INDUSTRY—LABOURERS.—The first prize of 2*l*. to the labourer in husbandry who had brought up the largest family without any, or with the least parochial relief, was adjudged to John Fenn, recommended by O. Hanbury, Esq. He had received no relief. Has a wife and 9 children.

Second prize: 1*l* 10s to John Unwin, named by John Bevers, had received no relief.

LONG SERVICE.—The first prize of 1*l* 10s to the labourer or servant who had worked the greater number of years without intermission (except from illness, or some sufficient cause) upon the same occupation, was given to Joseph Hitchcock, named by Lord Rayleigh, he having worked 53 years in the same occupation, with three successive masters.

Second prize, 1*l*, to William Hart, aged 73, recommended by Mr. Brown, having lived 53 years in the same service.

The prize of 1*l* to the single man servant, who had lived the greater number of years with one master not being an agricultural servant, was given to William Reeve, recommended by Mr. Larcher, having lived 14 years in the same servitude.

BENEFIT CLUB.—The premium of 1*l* for the labourer or servant who had subscribed the greater number of years to a benefit or benefit societies, was awarded to Samuel Thurgood, recommended by Lord Rayleigh, he having subscribed to a benefit club 50 years.

The premium of 2*l*, to the farmer (being a member) who had employed the greatest number of ploughboys (under 18) on his occupation in proportion to Acreage, from 1st January, 1836, up to the day of meeting, was awarded to Mr. Isaac Belcher, of Danbury, who upon 200 acres had employed three—two of the lads have won prizes.

FEMALE REAPERS.—The first prize, 1*l*. to the labourer's wife or widow (in the employment of a member of the society,) who earned the most money during the last harvest, by cutting corn, was adjudged to Mary, wife of Abraham Smith, of Woodham Mortimer, recommended by C. Comyns Parker, Esq., having earned in reaping 2*l* 8s in 16 days.

Second prize, 15s, to Susan, wife of Thomas Royce, of the same parish, having earned 2*l* 6s in the same time.

Third prize, 10s, to Mary, wife of William Grout, in the employ of Mr. James Christy, of Broomfield, having earned 2*l* 4s.

The other candidates were Sarah Tyler, 64 years of age, who, in the employ of Mr. Joslin Bulwer, of Ramsden Bellhouse, had earned 2*l* 1s 3d; and Kitty Guiver, who, with six children under 12 years of age, had earned in the employ of Mr. Cousins of Terling, 1*l* 11s 6d.

Each of the unsuccessful candidates present received 2s 6d.

The following are the awards of the Judges for Stock, &c.

PRIZES FOR STOCK.

Judges:—Mr. Richard Knight, Dunton; Mr. James Christy, Broomfield; and Mr. Charles Matson, Great Baddow.

OXEN—Class 1.—To the owner of the best ox of any breed, fattened upon the premises of the person owning the same.—First prize of 3*l* to Mr. J. S. Dennis, of Sandon, for a Durham ox 4 years old, fed on hay, Swedes, and mangel—travelled 4 miles on foot.—This animal, which is supposed to weigh 300 stone, excited the greatest curiosity and admiration, from its immense bulk and beautiful symmetry. It measures 10 feet 7 inches in girth and was said to be one of the largest and finest beasts ever exhibited. It was sold to Mr. Wm. Giblett, the celebrated butcher of Old Bond-street, for 80*l*.

Second prize of 2*l* to Mr. Joseph Foster, of Blunts Hall, Witham, for a home-bred, 4 years old, fed on turnips, cake, and bean meal—travelled 8 miles in a van. This was also a remarkably large and handsome beast, and was much admired. Its supposed weight was above 200 stone. It has been since sold, we understand, at 5s per stone, to Mr. J. Wenden, of Chelmsford, who intends to exhibit it, dead, at his shop on the Friday before Christmas.

BULLOCKS—Class 2.—Mr. T. Crooks showed a Durham steer, 32 months old, but no prize was awarded.

HEIFERS—Class 1.—To the owner of the best heifer, not having had more than one calf, fattened, &c. and bred by the owner.—First prize of 2*l* to T. W. Bramston, Esq., for a short horned heifer, two years and six months old, not had a calf.

Second prize of 1*l* 10s to Mr. Tom Crooks, of Broomfield, for a half bred heifer, 25 months old.

Class 2.—No certificate.

Class 3.—A prize of 1*l* 10s to Mr. Wm. F. Hobbs, of Marks Hall, for a Durham heifer, 4 years old, fed on cake, bean meal, and turnips; bred by Lord Huntingfield, and milked till the second week in March, 1836.

Mr. T. Crooks exhibited a beautiful half-bred buffalo, 35 months old, which was highly commended by the Judges.—Mr. John Seabrook also showed in this class a handsome Yorkshire heifer, four years old, fed on mangel, Swedes, and cake.—[Mr. Crooks was offered 8*l* a pound for the above heifers by a butcher from the west end of London, but it was understood they were to be killed at his sister's and exhibited at her shop.]

SHEEP—Class 4.—**JUDGES:**—Mr. Thos. Seabrook, Boreham; Messrs. Richard Knight, James Christy, and Charles Matson. Shearlings, without restriction as to feeding.—1st prize of 2*l*, to Mr. Tom Crooks, for the best pen of six shearing half-bred Cotteswold and Down, fed on grass, turnips, and cake.

2nd of 1*l* 1s to Mr. Thomas Bridges, of Buttsbury, for six shearing fat wethers, Leicester and Down, twenty months old, fed on grass, Swedes and turnips, and cake since 1st July—travelled seven miles in a cart.—[These were purchased, we hear, by Mr. Crooks at 3*l* 3s each, for his sister, and were shown dead yesterday.]

The following were also shown in this class:—By T. W. Bramston, Esq. Six shearing Down wethers, bred by the owner, and fed without cake: five of these were commended by the judges, and, but for the sixth, they would have had a prize.—By Lord Western. Six shearing wethers, half-bred Merino and Kent; they were much admired, some of them being remarkably fat.—By C. Comyns Parker, Esq. Six shearing Down wethers, bred by the owner, and fed on grass, turnips, and cake.—By Mr. John Cousins, of Terling. Six shearing Leicester and Down wethers, bred by the owner, and fed on cake, corn, and turnips; travelled nine miles on foot.

2*l* to Mr. Wm. Gale, for the best pen of four Kents, two years old, bred by the owner, fed on grass only, and travelled 16 miles.—Highly commended.

2*l* to T. W. Bramston, Esq., for the best pen of four fat Down wethers, bred and fed by the owner.

SWINE.—A prize of 20s to T. W. Bramston, Esq. for the best fat hog; eleven months old, and bred by the owner.

A prize of 10s to J. H. Haydock, Esq. of Ongar, for the second best hog, of the Earl of Harborough's stock; 32 weeks old.—Both remarkably fine and fat animals, and allowed to be the greatest curiosities in the field.

Mr. Bramston and Mr. Haydock each exhibited an-

other hog, and one, 9 months old, was also shown by J. T. Wilson, Esq. of Althorne.

AGRICULTURAL ROOTS.

JUDGES.—Mr. William Crush, Chignoll St. James; Mr. Joseph Coverdale, Ingatestone Hall; Mr. William Fisher Hobbs, Mark's Hall.

MANGEL WURZEL.—First prize of 20s to Mr. R. Baker of Writtle, for the 10 best roots, (the long species,) 10s to M. S. Gouch, Sandon, for the second best do. (globe species)—Sir John Tyrrell also exhibited in this class, roots of the globe and long species; Mr. Jas. Grove, of Gt. Baddow, the long sort, and Mr. R. Baker, the orange.

SWEDES.—Mr. Tom Crooks, 20s for the 10 best roots.—Mr. S. Gouch, 10s for the second best ditto.—Both parcels very fine. The other competitors were Sir John Tyrrell, Thos. Wm. Bramston, Esq. Mr. R. Tweed, of Woodham Walter; Messrs. I. and T. Belcher, W. F. Hobbs, John Seabrook, and James Grove.

OTHER TURNIPS.—First prize of 20s to Mr. S. Gouch: second of 10s to Mr. Tom Crooks.—Sir John Tyrrell and the Rev. T. Brooksby exhibited in this class some singular plants of *Cole Arabic*, or cabbage turnips; Messrs. I. and T. Belcher and W. F. Hobbs, were also candidates.

CABBAGES.—20s to Mr. Jas. Grove, of Great Baddow, for the five best plants; 10s to Lord Western for the second best ditto. These plants were of extraordinary size, some of them weighing upwards of 30lbs. Plants were also shown by the Revds. J. Bramston and T. Brooksby, and Messrs. S. Gouch, I. and T. Belcher, and Jas. Grove.

EXTRA STOCK.

The show of fat stock was not so large as on former occasions, but business was done to a pretty large extent. The best beef fetched at least 5s a stone.

There were about 500 storebeasts of different descriptions shown, most of which were inferior in quality, and met rather a dull sale; some few short-horned heifers made from 8*l* to 10*l*.

Mr. E. Kilworth of Canewdon, showed four remarkably fine home-bred oxen, grazed by Mr. Mew—three were sold at 45*l* each, one to Mr. Francis of Prittlewell, the other two were purchased by Messrs. Wenden, Ratcliff, and Drake, and were exhibited at their respective shops yesterday.

Sir John Tyrrell showed six fine North Wales runts, which were consigned to Mr. Benson for sale—one was purchased to be killed at Writtle, and two were sold to Mr. Crooks for his sister, at 22*l* each.

Mr. Page of Southminster Hall—eight very superior Highland Scots, consigned to Mr. Mason of Danbury, and sold at full 5s per stone. Mr. Page also showed four short-horned heifers, one of which Mr. Mason sold to Mr. Duffield of Baddow, for 29*l*.

Mr. Crooks—a Durham heifer and two steers, consigned to Mr. Steele, and sold, the heifer to Mr. Smith of Leighs, for 20 guineas, and the steers at 24*l* each, to Mr. Webster, of Rayleigh.

Mr. Joslin of Little Baddow—two short-horned heifers, sold to Mr. Brazier of Writtle.

Mr. Jas. Hedgeley of Margareting, consigned four Scots to Mr. Benson, some of which were sold.

Mr. Cousins of Terling, showed a bull and a heifer, the latter sold to Mr. Newman of Rayne, for 14*l*.

Messrs. C. and J. Hurrell—10 Highlands, consigned to Mr. Mason, and forwarded to Smithfield.

Mr. John Marriage of Barns farm—eight polled Scots, for which he refused 26*l* a head.

Mr. Flory, Danbury—two steers and a heifer, purchased by Mr. Davies.

Messrs. W. and H. Marriage—a Cumberland steer, sold to Mr. R. Butcher.

Mr. Pavitt—four Hereford heifers, two sold to Mr. Orton, and two to Mr. Milbank.

Mr. D. Polley—two Welch beasts, and Mr. H. Buttle, three heifers, unsold.

A pen of Merino wether sheep were exhibited by Lord Western; they were of extraordinary fatness and were

much commended by the Judges. Two Kent wethers shown by Mr. Gale, were also much commended, as was a pen of four Down Wether, three-years-old, shown by Mr. William Steele of Terling.

Mr. Tom Crooks showed a pen of 20 polled ewes, a pen of 20 Down ewes, and a pen of 20 Down lambs. The polled ewes were sold to Mr. Simmonds of Danbury, and the Down ewes to Mr. Stedman, of Goldhanger. Mr. Crooks also showed two single ewes, one of which was a pure bred Hampshire and the other a pure South Down. Mr. C. received several offers for them, but declined selling.

Mr. Cousins, of Terling, showed two very fine two year old Leicester and Down wethers, fed on cake and turnips; they are supposed to weigh 18 or 19 stone each. They would have been shown for a prize with two others, but being fed upon corn and cake they were excluded.

Mr. Willsher, of Fairsted, exhibited a pen of four fine two and three year old wethers, brought up by hand, much admired. They were consigned to Mr. W. Steele, for sale; he refused 4*l* 10s each for them, and we understand that one was afterwards sold for 5*l*.

Mr. John Marriage showed a pen of shearing half-bred Gloucester sheep, for which he refused 3*l* 10s a head.

Mr. Kilworth, four Lincolns; Mr. J. Marriage, Moulsham Lodge, 30 Downs, part of which were sold. Mr. Jas. Christy, 40 Downs, a portion driven out unsold.

Mr. Cousins, of Terling—14 sheep and a ram, consigned to Mr. Pavitt for sale in London.

Of store sheep about 1000 were shown, half of which were sold; Down ewes, fetched from 20s to 28s each; Down lambs from 16s to 22s; a few wethers were shown but were not sold.

Several ingenious and useful Agricultural implements, manufactured by Mr. Bewley, were exhibited in the field, and attracted much attention.

PROPORTION OF CRIME TO POPULATION.—According to Colonel Forsell, who has recently published a valuable work on the statistics of Sweden, the offenders against the laws in different countries bear the following proportions to the entire population:—

In England as one to.....	740
Wales.....	2,320
Ireland.....	490
Scotland.....	1,130
Denmark.....	1,700
Sweden.....	1,500
New South Wales.....	22
The United States.....	3,500

CURIOUS HORSE.—A French paper assures the public that at the Castle of Voyau, near Tremon, there is a young horse which has changed colour three times; at two years old he was a bright bay, he then became a dappled grey, and soon after resumed his first colour. At the present moment long white stripes are beginning to form on the back and shoulders.—*Athenæum*.

An extraordinary saddle of mutton was lately exhibited at Gainsbro', from a sheep bred and fed by Mr. Thomas Holtby, on a farm belonging to Sir C. Anderson, on the High Wolds, in the East-Riding of Yorkshire. At one year old, its weight alive was 22st 8lb, —two years old, weight 26st—at three years old, weight before slaughtered was 27st 2lb.—Fed on grass, turnips, rape, and oats. The saddle weighed 4st 8lb, the fat over the whole saddle nearly five inches thick, and equally laid on. When killed the quarters weighed 67lb each and upwards.

REPLY TO MR. MILBURN.

TO THE EDITOR OF THE FARMER'S MAGAZINE.

SIR,—I am sorry again to trespass on your valuable columns—but as there are many men, there are also many minds, and many opinions. Mr. Milburn has one opinion with regard to the failure of the turnip crop, I have another; he has a right to entertain his opinion, I have to maintain mine. I should not again have replied on this subject had not Mr. Milburn stated that if I did not shew him that he was wrong, he should retain his present opinion, and conclude me unable to prove my theory. Now, by the bye, I think that it is he who ought to prove that I am wrong. I advanced a theory, founded on a sufficient number of facts; which theory he attempted to prove was erroneous; but the arguments which he has as yet brought forward, I consider as mere nullities. It is not merely the turnip crop,—has not the whole of the vegetable world suffered? What has been the state of the corn crops, grasses, &c.? Have they not all suffered, and much more so the turnip, being a succulent plant, and requiring for its growth a greater degree of moisture and warmth.

My theory of the cause of the failure of the turnip crop is, that owing to the want of sufficient moisture during the Summer, and the cold winds and cold rains, caused disease of the turnip-plant, and then decomposition took place as a *consequence*; that the *decomposition* was the *consequence* of the disease, or unhealthy state of the plants, and not the *cause*. I stated that if the flies had not been more numerous than in former years, the same failure would have taken place. Mr. Milburn asks—"How I can account for the fact that thousands of acres were attacked, and yet survived, and are still a crop?" He perfectly misunderstands my statement. I stated, *the same failure* would have taken place, which *has taken place*. The whole of the plant did not necessarily die from the disease, but in many cases only parts—viz. the leaves—they being the parts most exposed, and furthest from the centre of support, were, as it were, affected by disease and mortification, similar to what takes place in the human body, when we find that the members, and those parts most remote from the centre of the circulation, frequently die, and still the remaining part of the body may survive, and even afterwards be perfectly healthy; as we find numerous instances recorded, where the soldiers under the command of the immortal Napoleon Buonaparte, on their retreat from Moscow, lost ears, hands, and feet, from mortification caused by the intense cold, and still those men survived, and were afterwards healthy. Now, I do not intend to say that the cold was the sole cause of the disease of the plants. No, my opinion is that—first, from a want of a sufficient degree of moisture, the plants became unhealthy. Plants are nourished by the absorption of food from the earth, in consequence of which they grow, and produce their peculiar secretions; and that food consists of *water* holding various substances in solution. Now, if there was a deficiency of water, the plants must necessarily become diseased, or at all events weakly. And secondly—the cold winds, along with cold but partial rains, being altogether unfavorable to vegetation, destroyed the more remote parts, or the whole of the previously weakly or diseased plants. In proof of what I have just stated, every farmer is aware that the driest parts of the fields, and those most exposed to the cold winds, (which the most elevated parts undoubtedly were) were the most affected—as were also the isolated plants.

Again—I stated that the flies attacked those plants

which were weakly and diseased, and some parts of which were in a state of incipient decomposition before the flies attacked them, as shown by the slimy mucus which was on the leaves—which mucus was formed by the cuticle, cellular tissue, &c., which was dead, and separating from the fibrous portion of the leaves by decomposition. Mr. Milburn supposes that the slimy mucus was the feces voided by the lice, but I can assure him that on examination I found that the leaves of the unhealthy plants covered with the slimy mucus, when not a louse or fly could be detected; and they are certainly of sufficient magnitude, that I should have seen them, had there been any, without having recourse to microscopic aid.

Now I think I have proved by what was evident to every person, that the plants situated in the driest and most exposed parts of the fields were the first affected by the flies. I have stated the cause of their being so affected, viz.—that parts of the fields being the parts where the plants first became diseased, as shown by the drooping of the leaves, and the slimy mucus covering them.

Again—Mr. Milburn states that the flies feed on the healthy juices only. Now, if that were the case, why did not the flies attack the plants which were the most healthy, and which were situated on the lower and more sheltered parts of the field? and why were plants, which were apparently nearly or quite dead, those which were most infested by the flies? Certainly, plants in such a state could not have their juices healthy. Supposing the flies had been the cause of the disease in a plant, why did they not leave the diseased plant, and attack the healthy ones, instead of remaining on a plant in a state of the utmost putridity?

I stated that the ground was never perfectly saturated with moisture during the Summer. Now, Mr. Milburn states that he can conceive no state so favourable to the decomposition of the plants as to perfectly saturate with moisture. In answer to which, I assure him he is perfectly in the wrong; for if he will keep vegetable matter perfectly submerged in water, he will find decomposition go on extremely slow; for instance, the timbers of ships which have been for centuries buried in ocean's deep, are found to be perfectly sound. Whereas, had they been exposed to the alternation of moisture and dryness, they would years gone by have been decomposed and resolved into their primary elements; but still I did not say, that the ground not being perfectly saturated with moisture was the cause of the decomposition of the turnip plants,—excepting being indirectly so—by the plants becoming unhealthy, and dying from want of moisture.

Again—I stated that the *cold winds* and *cold rains* promoted the decomposition of the plants, which they undoubtedly did, not only by killing the plants or parts of plants, but also by favouring the decomposition of them when dead. I also stated that a *certain degree* of heat is required for the decomposition of the plants, and that *certain degree* was prevalent during the Summer.

I again say that the drought, with the cold winds and cold rains, was the cause of the failure. There was never sufficient rain to saturate the ground, and what did fall, by being accompanied by the cold winds, perished the plants, instead of supported them. I stated that the fly did not attack the plant till it had arrived at a certain state of decomposition, so as to separate the *gelatinous* from the fibrous matter. He asks, how I can prove that *gelatine* exists in plants at all—for it will, so far as he is acquainted, be a chemical discovery. It may be a *chemical discovery* to him, but I can assure him there is in plants

what chemists term *vegetable gelatine*. Yet, I did not use the term gelatinous with the intent that that portion of the turnip-plant was composed of gelatine, but merely as a relative term whereby to express the aggregate of all the parts of the plant, the fibrous matter excluded.

As another fact which he supposes supports his opinion, he states that one of his geraniums was, *by neglect*, left out of doors one night, it became attacked by *aphides*, and soon after looked very diseased. Now, I have no doubt but his geranium became diseased from being exposed to the influence of the uncongenial night air, and was subsequently, from the diseased state, attacked by the fly; or why should that single plant be affected by the flies in preference to his other geraniums, which had been in more careful keeping? It appears that all his geraniums had been out of doors, and still none were attacked by the fly, except the one which remained exposed to the severity of the night. Now, I would ask Mr. Milburn if the flies are like bats, moving about only by night? and whether they are dormant during the day? If not so, why were not the other geraniums as liable to be attacked by them, as the unfortunate one? Evidently from this cause:—that the other geraniums had nothing to affect their health, consequently the fly would not attack them.

I have already, Mr. Editor, trespassed too much. The facts which I have adduced are so conclusive, that I still hold my theory to be correct; and until more potent objections are brought forward, I shall not again trespass on your columns, at least with regard to this subject.

Yours respectfully,
S. P. G.

SUBSOIL PLOUGHING.

Sir,—Having seen in the *Farmer's Magazine* a description of the Subsoil Ploughs of Messrs. Smith and Drummond, and agreeing with them most cordially in the great benefit derived from breaking up the strata to the depth of sixteen inches, I beg to state, that above four years since, I invented a plough for breaking up the hard pan, (as it is called,) which lies a few inches from the surface of a great part of our Norfolk lands; and which is apparently composed of cemented gravel, containing a certain portion of iron; and so hard as even to resist several blows of a pick-axe. I have improved much the construction of this plough from what it was at the first. My plough now weighs only one hundred and fifty pounds, the whole length from the extreme end of the beam to the extreme end of the tails, or handles, is only seven feet; the head of the plough, including the share is twenty-four inches; and I can plough easily with three horses, an acre and a quarter a day, to the depth of eighteen, and twenty, or even twenty-four inches. The plough breaks the pan and soil without turning it up; and it is my intention to make use of it for planting, instead of trenching the ground for that purpose. Any person who may think this plough worth their attention is welcome to take a model thereof on application to my bailiff,

I am, Sir, Yours, &c.,
E. TRACEY.

Rackheath Hall, Norfolk,
Dec. 12.

EXTRAORDINARY CROP OF BARLEY. — Thomas Wood, Esq., of Sandwich, from a piece of his land, not quite four acres, near Stone Cross, had the extraordinary quantity of 39 quarters and 6 bushels of fine barley, exclusive of the tithes. Upon calculation, the whole quantity grown will be found to amount to upwards of 11 quarters per acre.

THE CURRENCY.

[We insert the subjoined at the request of a subscriber, but cannot wholly coincide with the sentiments of the writer,—E. F. M.]

“It behoves the landed, commercial, and trading interests to UNITE in enforcing some measure of impartial justice to themselves and to others.—*State of the Nation in 1835.*”

SIR,—The threatening aspect of the money market, and of commercial affairs, is now attracting universal attention, and unless some measures are speedily adopted to stay the stalking mischief, my deliberate opinion is, that a very short period will elapse before landowners, agriculturists, merchants, and manufacturers are all involved in one common ruin; and from three to four millions of the labouring population are thrown out of employ at a time when provisions of every description (the result of a general failure in the harvest,) will be greatly enhanced in price beyond the reach of the mass of the labouring population.

It is not my intention to trouble you with a detailed statement of the causes, which, I rejoice to say, are better understood now than at any former period, that have produced the greatest alarm in the breast of every man whose capital is embarked either in land, trade, commerce, or agriculture, but rather to call the attention of the landed, agricultural, trading, commercial, and banking classes, to the perilous position in which they stand, from the operations of the Government and the Bank of England; and to implore them, if they have any regard to their own interest or that of their country, to lose no time in calling public and private meetings of those parts of the community over which, from their position in society, they necessarily exercise considerable influence, for the purpose of agreeing on the most effectual means of representing to the Government the national calamity, which must inevitably befall this country, should the Bank of England longer be permitted to exercise its capricious and tyrannous sway over the property of every man in the kingdom. The commercial prosperity which this country has experienced during the last four or five years has arisen entirely from the money put into circulation; first, by the facility with which the Bank of England has discounted the bills of the mercantile and trading interests; and, secondly, from the liberality which has been shown to those interests, by the Private and Joint Stock Banks, more especially the latter, but for the existence of which the operation of Peel's bill, had the Government been mad enough to continue it unchecked, would have annihilated every interest in the State connected with trade, commerce, and agriculture. This two-fold liberality of the Bank of England, and the Private and Joint Stock Banks, and *nothing else*, created the prosperity we have enjoyed for the last few years, by giving the country a sufficiency of the circulating medium to carry the productions of the earth into the uses of society; and as fast as they were produced on the one hand, they were consumed on the other. This I take to be the most accurate definition of legitimate trading, which is further demonstrated by the fact, that till within a few weeks of the present time, the stock of goods in the hands of the foreign and British merchant was insufficient to meet the demand. Had the same liberality been continued by the Bank of England, and the Private and Joint Stock Banks, or in other words, had the same amount of money been kept in circulation, the same prosperity would have continued; but the Bank of England has diminished, and is still diminishing, the money in circulation below the amount sufficient to carry the productions of the country into the uses of society, a severe check is thereby given to public credit and confidence; merchants are countermarching their orders, trade stagnates, the arm of industry will shortly be paralyzed, and no man whose property is embarked in trade or commerce can contemplate, without alarm and dismay, the embarrassment he may experience and the sacrifices he may shortly be called on to make.

It is not my intention here to enter upon the disputable question, whether the Government or the Bank of England be in fault. *The damage to the public is the same in either case.* My object is to awaken the trading and commercial classes, and all those whose pecuniary interest is mixed up with them, to a proper sense of the danger which now threatens to overwhelm them, feeling assured, that unless they are resolved without delay to tell the Government in language that cannot be misunderstood, that some measure of extensive amelioration must be adopted, the frightful scenes of 1825 and 1826 will infallibly be repeated.

This is no question of party politics; all are alike interested. The danger is imminent, and every man is bound to assist in giving effect to the public expression of opinion. For my own part, I see no reason to believe that the present administration are one jot more enlightened than their predecessors were in 1825, and I believe that they are as willing now to sacrifice the country to a pernicious and obsolete standard of value as was Lord Liverpool at that period. The plan of operation which I submit to my fellow-townsmen, and which I should be glad to see followed throughout the country, will be found at the close of this letter; and how imperfect soever it may be, it will, if acted upon, show the Government that the classes of society with which they have to deal now, are a very different race of men to those whom my Lord Liverpool remorselessly sacrificed in 1825. One word as to the detail of the plan. With regard to the first proposition, I apprehend it will be admitted that land-owners and agriculturists can have no permanent prosperity unless it is participated in by the manufacturing classes. Their assistance therefore, on this great crisis is a matter of personal interest to themselves.

With regard to the second proposition, the private and joint-stock bankers, they are clearly embarked in the same boat, and knowing what they have at stake, and recollecting the fate of the country bankers in 1825 and 1826, they are more imperatively called upon to remonstrate with the Government to relax its grasp upon the property of the country than any other class, unless they chose rather to be victimised.

With respect to the third proposition, the merchants, it becomes their imperative duty to show the Government that the old senseless cry of overtrading has had no existence, and in this there would be no difficulty.

With regard to the fourth proposition, the manufacturers, to which class I myself belong. I would implore the more influential among them in the town to lose no time in calling a meeting of the inhabitants to take this most pressing and vital question into their serious consideration. It has been seen that I have abstained from suggesting any remedial measures to the different classes whom I have called on to interfere in this great occasion. My object is to get them to meet, to take the subject into consideration; and that done, I have no doubt that proper measures will be adopted, and proper steps will be taken to arrest the threatened calamity.

The causes which are now operating so disastrously on the commerce of the country, demand the most serious consideration of every man; and should the plan which I have suggested be generally adopted, a force and combination of opinion would be brought to bear on the measures both of the Government and the Bank of England, and with such irresistible force that the judicial blindness of the one, and the gigantic monopoly of the other, must yield some relief. Furthermore, my plan possesses this advantage, that the deputation of manufacturers would support the statement of the merchant; that of the merchants, the statement of the bankers; that of the bankers, the statement of the land owner and agriculturists.

In closing these remarks I beg to say that nothing but the deepest sense of the importance of the subject could have induced me to intrude my opinions on my fellow-townsmen, that what I have done I have from a sense of duty with the wish not to offend or injure any party, but to benefit and protect all parties.

The following are my propositions:—

1. That county meetings, consisting of *landowners and agriculturists*, should be held in every county in Great Britain and Ireland, for the purpose of representing to the Government the alarming state of the money market, and the threatening aspect of commercial affairs; and that a deputation, consisting of two persons from each county, be appointed forthwith to lay their complaints before His Majesty's Ministers.

2. That, for the same purpose, town and district meetings should be held, consisting of *principals and directors of all private and joint-stock banks* in Great Britain and Ireland; and that a deputation of one person from each bank be appointed forthwith for the same object.

3. That, for the same purpose, town and district meetings should be held, consisting of *merchants*, in every town and district of Great Britain and Ireland containing a population of 20,000 souls, and that one person from each town, and two from each district be appointed a deputation.

4. That, for the same purpose, town and district meetings should be held, consisting of *manufacturers* in every town and district in Great Britain and Ireland containing a population of 20,000 souls, and that one person from each town, and two from each district, be appointed a deputation.

I am, Sir,

A BIRMINGHAM MANUFACTURER.

The soil of France is estimated to contain nearly 52,030,000 of hectares, which are distributed as follows:—

Arable	22,818,000
Wood land	6,522,000
Pasture	3,525,000
Meadow	3,488,000
Waste lands	3,841,000
Vineyards	1,977,000
Lands in special cultivation	780,000
Market gardens	528,000
Plantations of chesnut trees	406,000
Lakes	213,000
Sites of chateaux, country seats, out-buildings	213,000
Marshes	186,000
Hop-grounds	60,000
Ozier-beds	53,000
Olve-grounds	43,000
Parks and nurseries	39,000
Mines and quarries	28,000
Bogs or turf grounds	7,000
Mountains, roads, and rivers	6,555,000
Canals	9,000
Total.....	51,291,000

The *Dictionnaire du Commerce et des Marchandises* gives the following comparative table of the annual produce of France and England:—"Great Britain, from a surface of 13,000,000 of hectares, and by means of 5,200,000 labourers, produces 56,000,000 hectolitres of corn, 170,000 horses, 1,250,000 oxen, and 10,200,000 sheep. France, from 40,000,000 of hectares, and by the means of between 22,000,000 and 24,000,000 of labourers, produces 153,000,000 hectolitres of corn, 40,000 horses, 800,000 oxen, and 5,200,000 sheep. France, with her threefold quantity of land, and her two-thirds of the number of labourers, ought to produce at least three times as much as England—namely, 168,000,000 hectolitres of corn, 510,000 horses, 3,750,000 oxen, and 30,600,000 sheep.

SMOOTHEN'S, OR BOISHALL NEW RED WHEAT.—This variety was discovered by Mr. Thomas Smoothey, Boishall, near Halsted, Essex. It is a decidedly red wheat both in grain and straw. The straw is fine; ears short, thick, and close set. The sample which we have seen of it not having filled this season, and having been raised under very unfavourable circumstances, disables us from describing the grain correctly. The produce has been rated as high as seven quarters per imperial bushel.

THE HACK, OR ROADSTER.

(Plate.)

This horse, FIRE AWAY, gained the prize or premium as a stallion for roadsters, at a meeting of the East Riding Agricultural Association, held at Beverley, on Wednesday, July 27, of the present year. He is the property of Mr. Phillip Ramsdale, of Market Weighton, Yorkshire: rising three years old, a beautiful brown, and stands fifteen hands two inches high. He was got by Wild Fire, the property of Mr. T. Kirby, of York, which horse, after beating that celebrated black trotting mare of Mr. Slader, for 400 guineas, challenged all England, and found no competitor. Mr. Kirby's Wild Fire was got by West's Old Fire Away, whose sire was Mr. Jenkinson's Old Fire Away, who trotted two miles in five minutes, on the Oxford road, and was afterwards sold for one thousand guineas. Wild Fire's dam was got by Sky-scraper, Fire Away was bred by Mr. Cook, of Huggate, out of his celebrated trotting mare, who was got by Ponteland, whose sire was Waxy, dam Susannah by Rockingham, grandam by King Fergus. Fire Away's grandam by Old Trip, whose sire was Granby. Trip's dam by Cap-à-péc, great-grandam by Old Jalap.

PROPOSALS FOR ESTIMATING THE RENT OF LAND BY THE AVERAGE PRICE OF WHEAT.—It has lately been remarked in the public papers, that some system of a fluctuating scale of amount of rent, to be regulated by the price of corn, was much wanted, to create a good understanding between landlords and tenants. Two different plans for estimating rent in this manner, I here offer for public consideration. The amount of rent of arable land must, of course, be estimated by the quantity and value of the corn which it is likely to produce with fair cultivation, taking into consideration, also, the following particulars: whether it has on it all necessary buildings; the annual amount that it pays for parochial rates; the distance the land is from the market where its produce is to be sold; and what price per bushel may be reasonably expected for wheat, which, in the long run, governs the price of all grain, and meat too. Therefore, as the price of wheat rises or falls, so does the actual value of the rent of land. The value of rent for the different qualities of land will vary from the worth of two to seven bushels per acre, the regulating price to be annually that which has been the average price of the market agreed on; or the annual average returned price of the country for the past year. Supposing it should be 6s 6d per bushel, the rent of the different qualities of land may be thus calculated:—

Very poor land	2 bushels	13s 0d per acre.
Poor	3 ditto	19s 6d ..
Fair quality	4 ditto	26s 0d ..
Good	5 ditto	32s 6d ..
Very good	6 ditto	39s 0d ..
Extraordinary good 7 ditto	7 ditto	45s 6d ..

The intermediate qualities may be raised by the corresponding fractional parts of a bushel; thus, a medium quality, between fair quality and good, 4½ bushels, 29s 3d per acre; approaching nearer to good, 4¾ bushels, 31s per acre. Some may think this method of estimating the rent of land complicated and troublesome, but in reality it is neither the one or the other, and I believe it to be quite fair between landlord and tenant. No one can foretell

what may be the average price of wheat for five or seven years to come. After giving this subject all the consideration in my power, my opinion is, that provided the country is not involved in war, 52s per qr is the highest average price that can fairly be expected. I propose, therefore, to landlords, that they should have the rents of their farms, whether all arable, or part arable and part grass land, estimated to correspond with the price of wheat at 52s per quarter; but that the amount of rent paid should, in the following manner, depend on the price of wheat. For every 2s per quarter, which the annual average return price of wheat, up to the 1st of March in each year, should fall below 52s per quarter, 2½ per cent. should be deducted from the estimated rent. For every 2s 6d per quarter, which the annual average price should exceed 52s, 2½ per cent should be added to the estimated rent. I am quite aware that numerous objections are likely to be made to this proposal; but I am fully persuaded that they may all of them be fairly and reasonably answered. It is probable some tenants may say that they get a high price for wheat, from having a deficient quantity. That might, in some years, possibly be the case; but although in other years they may have a low price from having an abundant quantity, I make some allowance in the scale for a deficiency of produce. The increase of rent from a higher price of wheat would not be all gain to the landlord, for he would have to pay more for the food consumed in his family. With this plan, the more rent tenants had to pay, the better would be the times for them. Some may think the price of barley ought to be taken into account. This is quite unnecessary; the price of wheat will alone (take one time with another) fairly answer as to the amount of rent. On clay-land farms, nearly the whole of the rents must be obtained by the receipts from the sale of wheat. As to oats, I decidedly object to the returned price of them being taken into account in the valuation of rent; for a great portion of them is sold by factors, who have kept them some considerable time, at much waste and expense; the prices, therefore, returned of oats are much above the price which the grower gets."—From the Second Edition of Mr. Hillyard's 'Practical Farming.'

MAKEPEACE'S IMPROVED PATENT DRAG.—An interesting trial of this novel application of a drag to a stage coach wheel was made on Friday morning, at Castle-hill, in this town, and afterwards at Southern-hill. It appears, that by the action of a lever, which can be brought to bear merely by the foot of the coachman, the hind wheels are tightly grasped round the nave by a chain, and a weight of from 10lbs to 10 tons imposed by the leverage. The coach was started without horses, laden with out-side passengers, and whilst descending at a sharp pace, was stopped with the greatest ease. Of the inestimable value of such an invention, in case of the pole breaking, or horses becoming unmanageable, we cannot speak in sufficient terms of praise. The frequency of dreadful coach accidents has lately loudly called for the exertion of human ingenuity to suggest some plan of safety. Let some of the coach-masters try this—we will guarantee them the ample patronage of the public; and we would say one word to the Patentee—lower the price of the apparatus—the increased extent of sale will eventually more than repay the first loss.—Reading Mercury.

The finest Durham Ox ever sent out of the celebrated stock of Mrs. Strickland, of Apperly Court, Cheltenham, was on Wednesday slaughtered at Brunston's; the weight and size being so enormous, we are induced to give it to our readers. Weight, alive, 1 ton 8 cwt. 2 qrs.—Rough fat, 270 lbs.—Hide, 126lbs.—Height of shoulders, 6 ft. 1 in.—Length from the nose to setting on of the tail, 11 ft. 9in.—Girth, 10 ft. 1 in.



J. C. Walker. Sculp.

Drawn by J. C. Walker.

THE ROADSTER.

London, Published by J. S. B. & Co., No. 1, Abchurch Lane.

MANAGEMENT OF THE HUNTER.

The exertions of the hunter are placed in a state of requisition for a part of the year only; and as his services during the hunting season are extraordinarily severe, he is fairly entitled to rest or repose during what may be called the vacation.

It is only a few years since that the question of summering the hunter was much agitated through the sporting periodicals; and the point at issue was—Which is the preferable method?—to summer the hunter in the stable or in the field? The two systems were warmly defended by advocates on either side the question; and, in the heat of discussion, each party supported their favourite measure beyond the bounds of reason. The absolute truth will not be found in the unqualified adherence to either one system or the other: yet each is to be recommended under certain circumstances, and to a reasonable extent.

In the first place, the constitution and temperament of the horse should be the object of consideration, since, speaking broadly and generally upon the question, it may be justly remarked, that some horses will do better in the stable during the summer months, while others will derive more benefit from a run at grass.

It is but fair to presume that the hunter, during the season, receives many bangs, bruises, &c., from which, at its close, he may still be suffering in some measure: he may probably be troubled with corns also, since, from necessarily shoeing the hunter short before, to prevent the shoes being pulled off by the hind feet in the act of jumping, corns are very liable to be produced: at the close of the season, therefore, the hunter requires rest. Should this required rest be taken in the stable or in the field?

The hunting season closes in the month of April, when the horse should be progressively prepared for a change of diet. His allowance of corn should be reduced, and a gentle dose of physic should be administered to him. His clothing should be gradually removed. A feed of carrots each day, or even two, will be very serviceable, as they will cool the horse and prepare him for his grass; and if carrots cannot be conveniently obtained, potatoes may be substituted for them. In three or four weeks, the horse will be in a fit state to be turned into the fields, if the weather be fine. At first I would turn him out for a few hours only in the middle of the day, increasing the period daily; but I would not allow him to remain out all night for several weeks, unless the weather happened to be very fine and warm. Flies are not troublesome till the summer is advanced, and before the horse was subjected to these tormentors, I would take him into the stable, at least during the day, giving him grass or hay, and a feed of corn; and, indeed, I would not let him remain out during the night beyond the end of August.

When taken altogether into the stable, I would give him a gentle dose of physic, hay and corn, and a feed or two of carrots or potatoes during the twenty-four hours. Carrots are preferable to potatoes. The horse will also require bleeding; but if carrots or potatoes be given to him he will require less physic than is generally administered, and less bleeding also than those repeated applica-

tions of the fleam or the lancet to which the horse is generally subjected.

Exercise must be particularly attended to—slow at first, and gradually increased according to the progress the horse makes towards condition.

As the horse advances in condition, his allowance of carrots should be reduced to one moderate feed in twenty-four hours, with four or five feeds of corn. If the horse be a delicate feeder, I should feel no hesitation in slicing two or three carrots into each feed of corn, which will be a great inducement for the animal to eat the corn—the carrots he is sure to eat, and he cannot accomplish this without eating some of the corn. I know several experienced sportsmen, gentlemen of good sound sense, who give their hunters a small feed of carrots every day throughout the hunting season; by which means the horse will require less physic.

A horse, thus summered, will not fail to be in excellent condition by the time his exertions are called into action by following the hounds.

If it be not convenient to turn the hunter out to grass, I would give him a dose of physic, carrots, or potatoes, in the same manner as I have already described, and, as soon as I could, I would supply him with grass in the stable. I have found lucerne a very excellent substitute for the common grasses; it is fit to cut at an early period, and will cut two or three times during the summer. The horses shoes should be taken off, and he should be led out upon soft turf, and receive walking exercise two hours each day. At the latter end of July, he should be treated after the manner already described.

When the horse is turned out for a few weeks, (his shoes having been taken off) his legs and feet derive much benefit from the evening dews. If he be summered in the stable, his legs and feet will require much attention, but cannot, under any system of management, derive benefit equal to that which nature affords to the horse at grass: yet, if the legs of the horse be fine, and if he be not troubled with corns, and his feet all right; if he be not afflicted with the navicular disease (groggy), he will not of course stand so much in need of that softening of the horn of the foot, that cooling of the feet and legs, so grateful and soothing to horses afflicted in the manner just mentioned.

It is no uncommon case for a hunter to be unfit to turn out. If he be much given to galloping or jumping the fences, he had much better be kept in the stable, or he will be apt to stake himself: there is less danger of this happening in parks and pastures of great extent than in the common or small inclosures; yet the extent of the ground is by no means a guarantee against the accident.

It is a common practice to blister and turn out. I am not an advocate for blistering, as I have yet to learn what benefit is to be derived from it, at least in this case. If the legs of the animal be puffed with windgalls or otherwise, blistering is resorted to, the animal is put to excruciating pain; rest becomes indispensable; and when the horse has completely recovered, his legs are said to have become fine from the application of the blistering ointment. No such thing. Give the horse the same length of time to rest, and his legs will

become equally fine, if not more so. It is rest which thus, in some degree, relieves the animal from the injuries which he has sustained from over-exertion, bad treatment, or other causes. Blistering, in this, and all similar cases, is most injudiciously applied. I have seen horses blistered so severely that the hair has never grown again—I think I may say, that I have seen their constitutions seriously injured by it. I am of opinion that, generally speaking, horses are bled, physicked, and blistered too much.

Now, although I am an advocate for turning out the horse to grass in the manner I have described, I would rather keep him in the stable, if he were inclined to gallop or jump the fences; or, in other words, I would run no risk of injuring or losing the horse; as, notwithstanding my preference of a run at grass, after the manner I have described, yet the benefit to be thence derived, I cannot consider as an equivalent for the risk of laming or killing the horse. When my horse was at grass, I should be inclined to treat him with a feed of corn daily, which would, in some measure, retain his condition; for, if a horse is suffered to become very low, it sometimes becomes a difficult matter to get him into condition again.

As to turning a highly-bred thin-skinned horse out to grass, unreservedly, during the summer. I consider such a plan very prejudicial: he must be exposed for a considerable period to the unrelenting persecution of his insatiable tormentors, the flies; and while his condition, under such circumstances, can never improve, he is goaded, by insupportable torment, to gallop and jump at anything, and thus perhaps kill himself.

In turning out a horse, I should never place tips upon his feet—I know of nothing more ridiculous! it is said that the tips prevent the horny crust of the horse's foot from being broken; which amounts to nothing, as it was never known to break to an injurious extent, nor, indeed, can it; while the tips throw the weight on the heels alone, where corns (if the horse have any) are situated, and counteract their removal, which a run at grass will frequently effect where tips are not used.

When a horse is tender before, he will derive much benefit from a run at grass upon the softest turf possible—upon a marsh for instance: but the relief is only temporary, as the lameness returns as soon as the horse is brought into work again, particularly on a hard road. I have seen many hunters which went very well in the field, although they were tender before; indeed, one of the best hunters I ever rode was thus afflicted. She was a beautiful grey mare, fifteen hands three inches high; a very safe and splendid performer. I turned her upon a marsh, called Martin Mere, in Lancashire, from the 20th of May to the 15th of July, and she came up in what might be called good grass condition; the soft, cooling, and pliable nature of the ground allayed the heat, irritation, and pain of her feet, and she therefore fed well and rested. Having taken her into the stable, I contrived, by exercising her upon soft elastic turf, to get her into tolerably good condition; and, in the month of October, I rode her with the harriers repeatedly

and she appeared to sustain little inconvenience. Some time after, I met Sir H. Mainwaring's fox-hounds, at Shipbrook Bridge; and, having found a fox, after a beautiful run of one hour and a quarter, the hounds run in to him. We tried for a second fox, but it so happened that we had nothing like a run afterwards. The mare went home very well, which was not remarkable, as she had not experienced anything like distress. The next morning, however, she manifested unequivocal symptoms of the effect of her exertions on tender feet. A few days afterwards I again met these gallant and splendid hounds, whose appearance always reminds me of those belonging to the Duke of Rutland; and we had a severe run over a difficult country, with death at the end of it:—and fifteen or sixteen miles from home. I got home tolerably well, though the mare shewed symptoms of distress: and, on examining her feet, after she had been in the stable for some time, I found them hot, and evidently very painful. The next morning the mare was a complete cripple; nor was it without some trouble she could be got out of the stable, and walked about for fifteen or twenty minutes. It was a fortnight before I took her out again; she was groggy, but went well when she got warm. From this an opinion may be formed of all hunters which unfortunately have become afflicted with what veterinary surgeons denominate the navicular disease, but which is commonly known by the term, *groggy*, or *founder*, or *tender before*. A horse of this description may go well with hounds when he has become warm; but he cannot come out often; for a hackney he is utterly unfit, as he cannot go upon hard road: he is best adapted for the collar,—such horses may be found active and useful to a farmer, particularly for the plough: in such cases, they move principally on soft ground, and having no rider to sustain on their back, they have only their own weight or pressure to support on their fore feet, and are consequently employed under the most favourable circumstances.

Neurotomy, or nerving, is sometimes resorted to for the cure (or rather relief, as cured it cannot be) of this disease, and those who are anxious to peruse the account of this operation and its effects, I refer to Perceval's Lectures. I do not profess to treat the diseases of the horse beyond what may be called the comprehension of a groom possessing good sound sense, in order to enable him to administer a remedy without calling in the expensive assistance of a veterinary surgeon.

A sly or delicate feeding horse will occasionally be found in the hunting stable. Many of them are very free going animals, having good spirits, and their stomach and intestines never overloaded, frequently almost empty. Whatever may be their good qualities, they cannot endure a succession of exertion: they are also much affected by the influence of a cold harsh atmosphere. They are horses which require much more than ordinary attention, and can scarcely ever be said to be in good health. After the fatigues of a day's hunting, what can be more vexatious than to see a horse standing in the stable and refusing to eat? Such a horse cannot be kept in condition, nor yet brought regularly out as a hunter; he will always want nursing and doctoring.

In a disquisition like this, some degree of repetition must unavoidably occur, and where such happens to be the case, the repetition has been adopted for the purpose of preventing any misconception, and to render the discourse as intelligible as possible.

As to the general management of the hunter in the stable, I must refer the reader to an article in the last number; but inasmuch as the hunter is called upon for exertions far beyond the ordinary labour of the horse, he is of course entitled to particular attention in the stable.

A hunter generally returns from the fatigues of the day with an empty stomach, and covered with dry sweat and dirt. In the first place, he should have plenty of thin oatmeal gruel; I would then place a feed of corn in the manger, a little hay in the rack; and the operation of cleaning should commence as soon as possible (for which see the article in the last number.) The hunter's legs should be washed with warm water, carefully examined for thorns, over-reaches, &c., and the legs should be rubbed dry, and well hand-rubbed, by which means a free circulation of the blood will be promoted. His feet should also be carefully examined. When he is thoroughly cleaned and quite dry, he should be watered, the chill being taken off the water, another feed of corn may be given him, hay placed in his rack, his bed prepared for him, and the sooner he is left to himself the better.

It may frequently happen that the horse will require a mash, &c., which must be left to the discretion of the groom or the master.

The next morning, one hour's slow exercise will be sufficient; and if the horse receive proper attention, he will be able, in two or three days, to go out again. Once a week is said to be quite sufficient for a horse to go out with fox-hounds; but they will do more, if judiciously managed in the field as well as in the stable.

The hunter should have as much corn as he will eat, unless he be a very greedy feeder; but I am of opinion that beans (some prefer white peas) are not necessary till the season has commenced. I am always anxious to have my hunters come out, or commence their business with plenty of flesh, or rather, plenty of good hard, elastic muscle on their bones, which enables them in my opinion, to get better through the season, than if their previous training had reduced their flesh as much as possible.

As the hunter is highly fed, kept in a warm stable, and goes through a severity of exertion of which the horse would be utterly incapable under other circumstances, that is, without the excitement of the chase or run, so is he subject to casualties and disease; further, being fed for a considerable period on dry food, he frequently experiences constipation of the bowels. Therefore, whenever a frost happens to set in, a gentle dose of physic will generally be found serviceable. Where a feed of carrots is given, as I have before observed, physic will not be so often required. The administration of physic prevents the horse from feeding properly for a day or two, which, added to the violence of its operation, must reduce him; while carrots (or potatoes) if occasionally given, will operate as a gentle purge, but will not take the horse off his feed. I have heard it remarked that carrots cause

an excess of perspiration, but I never found this to be case: and I have no doubt that when this has happened, the carrots have been too plentifully given to the horse.

Old hay is said to be better than new hay, and so it is; but this is one of those general expressions that requires qualification. Hay is got in during the months of June and July; it sweats and settles: by the month of December it has gone through every process of fermentation, and has acquired its greatest possible perfection. When it is twelve months old it has suffered very little deterioration; but, after this its nutritive qualities evaporate more rapidly than they did prior to this period, and it will ultimately become as destitute of nutriment as straw. I have frequently heard it recommended to shake the dust and *seeds* out of the hay before it is given to the horse: to shake the dust out is perfectly correct, but the seeds may be regarded as the corn of the hay. Strictly speaking, however, the hay ought to contain no dust. The hay given to a hunter should be such as has been well got in—it should be of the best quality, it should therefore contain no dust, and will not require shaking.

Somewhat similar remarks may be applied to oats; the general opinion being that they should not be given to the horse till they have acquired considerable age. If oats are well housed in the month of August or the beginning of September, they will be fit to thrash in two months afterwards; and after having been out of the straw a few weeks, are quite as good, perhaps better, than at a later period. The oats have, at such a time, completed or gone through their sweatings, and can never be better.

In regard to hay, the fact is very striking: it continues to lose weight after it has become six months old; and as this evaporation consists entirely of the juice or nutritious quality of the hay, it must become worse precisely in proportion to the extent of the said evaporation. Similar reasoning may be applied to oats, but not to the same extent.

When beans are given to a horse, I would have them broken; but I would not have the oats crushed. I tried the experiment, and it appeared to me to render the horses dull rather than otherwise; the oats in this form were certainly not preferable to oats given whole. Oats, I am aware, are very often voided whole: but it does not thence follow that the horse has derived no benefit from them. If the oats appear whole, the essence has been extracted, and, if a strict examination were to take place, it would most likely be found, that, if they had not been absolutely macerated they had been bruised.

A hunter should be well fed the night preceding his going out with the hounds; but he should not receive a full allowance the next morning. If the groom visits the stable at an early period of the morning, the horse may receive a regular feed of corn (no hay), particularly if he have to travel from six to ten miles to the place of meeting. If the corn be given to the horse at six o'clock in the morning, as a fox is seldom found before eleven (and frequently not so early), a considerable time will elapse between the horse's feeding and the

commencement of his work. Water should be sparingly given on the morning of hunting: a few swallows will be sufficient.

I have already observed, that, in the management of the stable, the groom ought to be able to attend to a number of little ailments of the horse, for which a veterinary surgeon is generally employed. If a horse be troubled with corns, the groom should take care that, in shoeing, all pressure upon the corn is taken away; otherwise the horse will continue in pain, perhaps be lame, nor can the corn be eradicated while any pressure remains upon it. But by proper shoeing and paring, the corn will in time disappear.

If symptoms of a thrush or frush appear, ill consequences are easily prevented by timely attention. In this disease there will be a degree of inflammation of the sensitive frog, occasioned either by contracted heels, the want of cleanliness, or bad shoeing. The presence of thrush may be ascertained by a tenderness felt when gressing the frog, which is also accompanied with a discharge of matter. The part should be well washed and dressed with the following ointment:—

- Take of Vitriol zinc,
- Armen bole,
- Alum, of each, in powder, one ounce.
- Tar, sufficient to form an ointment.

Mix.

This should be applied on lint or tow: it should be placed in the cleft of the frog, and renewed occasionally. On the first appearance of thrush, it may be frequently cured by simply dipping tow or lint in tar and applying it to the sore.

Splents are hard excrescences which grow on the bone below the knee, and present various shapes and sizes; and to which young horses are very liable. Few horses put out splents after they have attained the age of seven, unless produced from accident or a violent blow. Splents often disappear without any means being adopted for their removal. A splent that arises in the middle of the bone is not dangerous; but when splents present themselves on the back part of this bone, when they grow large and press against the tendon they produce lameness.

When splents first appear, they should be bathed with vinegar, by which they will be sometimes removed. Various remedies, however, are prescribed for them. Some lay on a pitch plaster, with a little sublimate or arsenic. Others apply oil of vitriol; others, again, tincture of cantharides: all of which have at times succeeded; but all these caustic applications are apt to leave a mark or scar. A mild blister is, perhaps, to be preferred. Some rub the splent with a round stick or the handle of a hammer, and then anoint it with oil of origanum. When it becomes necessary to bore the splent, &c., (which will seldom be requisite if timely and proper attention be paid to it), I should call in a veterinary surgeon.

Splents in the middle of the bone, as they neither produce lameness nor inconvenience to the horse, I should never attempt to meddle with.

Curbs are callous enlargements, situate at the lower junction of the bones at the hind part of the hock, and are produced by blows, kicks, sudden turns or twists, riding too hard up hills, &c. &c.

They produce stiffness in the first instance; and ultimately lameness. They may generally be removed by blistering on their first appearance; but if they do not disappear by twice blistering, the firing iron must be applied, an instrument which should never be placed in the hand of a groom, but always used by a veterinary surgeon.

The capped hock, or capulet, is a swelling which takes place on the points of the hocks, and is sometimes seen on the point of the elbow of the fore-legs. It is an enlargement frequently very difficult to reduce, and is brought on by a blow, strain, &c. I have known blistering used frequently for capped hocks, but seldom with much benefit. The method I recommend is, the moment they are perceived by the groom, to employ a veterinary surgeon. I am not aware that the horse will sustain injury if these enlargements are allowed to remain; but, if they are large, they present an unsightly appearance.

A wind-gall is a puffy tumour situated on both sides the back sinew of the horse, above the fetlock on the fore-legs, but more frequently on the hind-legs; but they very rarely cause much pain. They sometimes arise from constitutional weakness, but more frequently from strains, hard riding, or ill-usage. If these swellings appeared to cause no impediment to the action of the horse, I would not meddle with them; on the contrary, if they produce stiffness, so as to cause a horse to stumble, call in the assistance of a veterinary surgeon. I have repeatedly applied blisters to them, which, however, failed in removing them.

Broken knees are considered as highly disgraceful to the horse. To the hackney they are justly so, at least either to the horse or his rider; but a hunter is liable to break his knees from a number of unforeseen incidents, for which the horse ought not to be blamed. Many good hunters, however, are very indifferent hackneys. When this accident happens to be slight, the application of neat's foot oil, or indeed any animal oil, two or three times a day, rubbing the hair straight the way it should lie, will effect a cure. As animal fat nourishes and supports the hair of the creature, so animal fat or animal oil will reproduce hair either on the knees or other parts better than any other application. Vegetable oils are not to be recommended for this purpose. I know, from many experiments, that neat's foot oil or sheep's feet oil, or fresh hog's hard, will reproduce hair on the horse far superior to all other remedies which have fallen under my notice; but the fat or oil of a horse would probably answer the purpose better:—in this case, it would be applying the very same unction by which, according to the laws of nature, the hair of the horse is nourished and supported.

When the knees are severely cut or bruised, they should be washed clean with warm water, and a poultice applied, morning and evening, for several days, when the inflammation will have subsided, and they may be dressed with a solution of blue or white vitriol. But if the wound does not heal, a veterinary surgeon should be employed. However, as soon as the wound begins to mend, the oil should be applied, on account of its healing quality as well as its efficacy in the reproduc-

tion of hair. I have never met with a veterinary surgeon that was aware of the effect of the oil till I drew his attention to the subject and explained the nature of it.

Crib-biting and wind-sucking.—Of Yare's anti-crib-biter, I think nothing: it is merely a muzzle, which hinders the horse from seizing the manger with his teeth, but does not prevent him from sucking his wind; and, indeed, whenever the said muzzle is removed, the horse goes to work again at the manger as eagerly as ever. Crib-biting is very unpleasant to say the least of it; and if I had a crib-biter, otherwise a favourite, I would place him in a loose box, without either manger, rack, or any thing upon which he could fix his teeth. His hay could be placed upon the floor; and his corn given him in a smooth tin-box, edged round with sheep-skin, and made to draw out of the wall. I do not admire the plan so commonly practised of buckling a strap round the neck of a crib-biter.

Broken wind is brought on by violent exertion during the time that the stomach is loaded, particularly with water. It is also produced by bad hay, and other causes. A cure is out of the question.

Roaring, whistling, and piping, are incurable; and although various tricks are resorted to by the lower grade of horse dealers, such as the administration of bacon fat, or something similar, it may prevent the roaring for a short period, but nothing more. I have seen many good hunters most unequivocal roars. One of the best hunters I ever rode emitted a whistling for the first few score yards when put into a gallop, when the noise ceased. No horse had better wind.

A slight cold may generally be removed by a warm mash or two given at night; but when it is violent, and attended with inflammation, the horse should be bled; a veterinary surgeon should be employed.

Grooms should be capable of bleeding, a knowledge of which may be easily acquired from observing the performance of the operation several times.

Administering a ball is an operation at which some grooms are expert; while others manage the business in a very clumsy manner. It is difficult to give some horses a ball, from their determined opposition. A horse, like a child, uniformly testifies an aversion to physic; and I have met with some, particularly Irish horses, where much care and dexterity were required to get the ball down their throats. A few years since, I had a little Irish horse, which was very expert in the use of his fore feet, and on this account, giving him a ball became rather a dangerous business. On one occasion, happening to call at Rothley house, on the road between Loughborough and Leicester, I wished to give the horse a ball. I told the ostler that this was difficult: the man, however, took the ball from my hand, turned the horse round, and popped the ball down his gullet in a few seconds. He made no preparation, and the horse might be said to have swallowed the ball without being aware of it. This was as it should be. Whenever preparation is made, the horse prepares to resist; and on this account, I object to the use

of the twitch and the balling iron. It would appear that the twitch is an instrument much used on the other side of St. George's Channel, as I have never met with an Irish horse that had not a great dislike to have his nose touched. Irish sportsmen ride hard and unsparingly, and I am inclined to think their grooms are harsh and severe in their stable discipline and management.

A notion of trimming, like a knowledge of bleeding, will be much sooner and much better acquired from a little practical observation, than from a volume of written description.

Docking I should not choose to perform myself, though it is not a difficult operation. When performed by grooms I have known lock-jaw to follow. The only difficulty in docking is to hit the joint, or as near the joint as possible. The late Mr. Scarisbrick, of Scarisbrick Hall, Lancashire, used the docking-knife with uncommon dexterity: but he did not cauterize the wound for the purpose of stopping the bleeding: the blood will seldom, if ever, flow to a dangerous extent. If it becomes necessary to stop it, the gentleman just mentioned applied a little flour. Sealing the wound with hot iron must produce some degree of inflammation.

Having pointed out these disorders and ailments of the horse, wherein I conceive the groom may very well act the part of the veterinarian, I wish it to be impressed upon the mind of the former, that, whenever he is in doubt, to call in the assistance of a *skilful veterinary surgeon*, if there should happen to be one within *forty miles!* I will conclude the present article with a few desultory observations.

In cases of swelled legs, to which horses in high condition are subject, there is nothing perhaps superior to a few balls, made in the following manner:—take

One pound of nitre,
Half a pound of sulphur;

Molasses sufficient to make the whole into balls of the common size; one to be given every day till the swelling has completely subsided. When horses fly at the heels, appear unkind in their coats, these nitre and sulphur balls will be found to answer the purpose much better than a course of physic, as they effect the object equally well, if not better, while their operation is milder, and the horse consequently suffers less both in his constitution and condition.

When *confirmed grease* appears in the heels of a horse, a more powerful medicine must be administered than the nitre balls. In this case, I should give the horse two drams of calomel in the evening, and the next morning a common purge.

When horses are eating their corn after a day's hunting, when of course their stomachs are completely empty, they may be sometimes observed to cease feeding, turn their heads back and look at their flanks, and even lie down for a short period. These symptoms are generally supposed to be indications of the gripes; and the animal is treated accordingly. They are produced by worms; the latter being as hungry as the horse, begin to feed; and, by moving about in the body of the horse, make him sick. Having already described

the remedy for worms, the reader is referred to the preceding number, page 190.

Horses, particularly those highly fed, are subject to inflammatory fevers, which may be known from the appearance of the horse's eyes and countenance, but of which, however, the state of the pulse forms a better criterion. The pulse of a horse may be felt in the temporal artery, or just behind the elbow of the fore-leg (the left fore-leg is perhaps preferable). The pulse of a horse in good health will be found to beat about forty times in one minute; and, consequently, when the animal is labouring under inflammation, an opinion may be formed of violence or otherwise by the rate of the pulsation. In a high state of fever, the pulse will reach as high as 75 or 80. In such cases, bleeding is obviously the first step, followed by the administration of three ounces of nitre made into a ball, with plenty of water gruel afterwards, with which the horse must be drenched, if necessary. He may require bleeding several times, according to the violence of the fever, and the nitre given every day.

Malt will be found very nourishing to a horse which has been much reduced by illness, but has become convalescent. The malt should be steamed for half an hour, by pouring hot water upon it, and covering it with a cloth.

Costiveness is sometimes mistaken for the gripes: in which case, the horse frequently endeavours to stale, but is unable, and evidently labouring under considerable pain. In this case, the intestines, containing the dung, being overloaded, press upon the bladder and prevent the horse from staling. Back-raking will give him relief.

Gripes in the horse may arise from various causes, but principally proceeds from two—from the horse being chilled with cold water, &c. and from inflammation of the bowels. In the first case, a bottle of Daffy's Elixir may be given with the best effect: it should be mixed in a pint of warm ale, into which a little grated ginger has been introduced. When gripes is caused by inflammation, the animal should be back-raked, sweet oil given inwardly, and every four hours one ounce of common purging salts. Bleeding will also be found very beneficial.

A horse is seldom lamed in the shoulder, except from a violent blow or a fall, &c. To ascertain this, trot the horse, and if he be lame in the shoulder, the muscles are affected so as to prevent his stepping out so far with that leg as he will with the other. When the lameness is seated below, he will extend the lame leg as far as the other; but, on the foot reaching the ground, the lameness will be perceptible.

In bruises, sprains, &c. the following lotion will be found very beneficial:—take

Spirit of wine 8 ounces; dissolve one ounce of camphor in it, add one ounce of oil of turpentine, one ounce of spirit of sal ammonia; oil of origanum half an ounce, and one large table-spoonful of laudanum.

It should be well rubbed in with the hand for ten minutes or more, three times a day.

RUTLAND AGRICULTURAL SOCIETY.

This meeting, which was held at Oakham on the 1st Dec., and was much greater than that of any former year, and the stock generally speaking, was considered good, although it must be admitted that fat oxen were more scarce than on former occasions. The meeting, took place as usual in the room which was built by the President of this Society, Sir Gerard Noel Noel, Bart. Among the company were the most noble the Marquis of Exeter, Lord Willoughby de Eresby, Mr. Pegus, H. Wilson, Esq., S. O'Brien Esq., G. J. Heathcote Esq., M.P., and a large body of the important and influential gentry of Rutland, and the neighbouring counties—together with some of the most eminent breeders from all parts of the kingdom.

We have above said that the fat oxen classes were not generally good—scarcely one being equal to those we have seen on former occasions bear the prizes. We cannot call to mind a single beast uniting in that nice degree size, weight, make, and fat, which have been so lauded hitherto. The sheep, however,—those of Lord Exeter in particular, were admirable specimens of breed and keep. There were some good animals shown in the extra stock, particularly 3 eight-week old pigs, bred by Mr. Chapman of Whitwell, who, it will be remembered, took the first prize at Oakham, in 1835. The corn was good—a sack of old oats shown by Mr. R. Smith, of Burley, being much admired, as was also a sack of beans, grown by Mr. Rudkin, being of a new description. The vegetables were rather superior to those shown last year, and were much commended by the judges.

The principal cattle were sold to the neighbouring butchers, for Christmas beef, &c.—although many were sent forward to London, to represent this society at the Smithfield show.

The next meeting of the Society takes place, we understand, on the first Monday in January, 1837, at the Crown Inn, Oakham, when the bill of premiums for that year will be entirely gone through, and such alterations and additions as the subscribers may think proper, (it being a meeting of subscribers, and not, as generally understood, managed by committee) made.

THE DINNER.

At about three o'clock the members and their friends, in number about 140, adjourned to the George Inn, and partook of a most excellent and well-arranged dinner.—Stafford O'Brien, Esq., filled the chair; G. J. Heathcote, Esq., M.P., vice; supported by H. Wilson, J. M. Winkfield, S. Hotchkin, C. W. Wilmot, J. Egleton, R. W. Baker, J. Morris, R. Cresswell, W. Sharrard, Esqrs., &c., &c.

Upon the cloth being removed, the CHAIRMAN rose and addressed the meeting:—

He had to regret, in addressing them, the absence for the first time since the formation of the society, of their worthy President—first, on account of the slight indisposition which led to that absence—and secondly, that it transferred the duties of Chairman to one so much less able to carry on the duties of the evening, and support that hilarity and good humour for which he stood so pre-eminently conspicuous in meetings of this description. He had been called to the chair apparently by the unanimous voices of the gentlemen having the arrangements of the meeting, and whether the compliment was one paid to his near relationship to the President, or to his endeavours as an agriculturist, he should as a matter of duty and pleasure, do his best to walk in the shoes, if he might so term it, of their excellent President. It had been intimated to him, that, however sincerely

we wished the health of the King, or indeed the interest of any toast that might be given, their celebration with three times three, or nine times nine must on this occasion be restricted, from the press of business they had in hand—as also (and he begged particularly to impress this upon their minds) the introduction of any political tendency in the speeches of any gentlemen—because politics cannot be taken in the pure sense of practical agriculture—and, in a meeting like the present, must lead to feelings inimical to the prevalence of good fellowship. Without farther preface, he should beg to propose “The King.”

The CHAIRMAN then gave, “the Queen and all the Royal Family,” “the Army and Navy,” &c., which having been received with the usual enthusiasm, he proceeded to give “Prosperity to the Rutland Agricultural Society.” (*Cheers.*)

G. J. HEATHCOTE, Esq. rose. He had another toast to propose to them, and he must call their attention to it by a few preparatory remarks. It was “Sir Gerard Noel Noel, Bart., President of the society.” In calling on them to do honour to this toast, he need not revert to the disappointment occasioned by the regretted absence of Sir Gerard. None could be more missed than the president of a society like that they were called upon this day to celebrate—he having from its foundation acted upon so liberal a principle, that all must feel indebted to him, not only as their president, but as an agriculturist, eager in the promotion of that branch of commerce, by the liberal premiums he had from time to time offered.

The CHAIRMAN returned thanks at some length—and in conclusion, gave “the Vice-presidents.”

G. J. HEATHCOTE, Esq., in returning thanks, fully concurred in what had been expressed by his hon. friend, and hoped with him that all would be strenuous in the one great point, and that the society would still progress. They had seen that day what could be effected by unity and perseverance, and he concluded by assuring them that he should be always at his post. (*Cheers.*)

H. WILSON, Esq., also returned thanks as one of the Vice-presidents—and briefly gave “the Chairman.”

Mr. ROBERT SMITH, (one of the Secretaries) then proceeded to read over the award of the prizes (which are added at the end of our report)—and on arriving at the labourer's premiums, the several successful candidates were shown into the room, and severally addressed by the Chairman in a warm and encouraging manner.

“The Judges,” Mr. T. Chapinan, Warwickshire, Mr. W. Anderson, Bedfordshire, and Mr. V. Bedford, Northampton.

Mr. ANDERSON briefly returned thanks.

“The Stewards.”

E. W. WILMOT, Esq. acknowledged the compliment at great length, stating, on behalf of himself and colleagues, that they deserved but one half of the honour done them, for it was but the duty of man to endeavour to serve his neighbour, which he trusted they had done, with impartiality to all, and they should still further persevere in the cause in which they had embarked—that of agriculture. He had had that day placed in his hands by one of the secretaries evident proofs of the rising prosperity of the society—among other items he could announce to them with pleasure the addition of nearly forty new subscribers, among whom were many of distinguished rank, producing a considerable surplus to the general amount, which they intended to offer in additional premiums at their next meeting on the

first Monday in January, when he requested the favour of the company of all who felt themselves interested in the Society.

“The Secretaries.”

Mr. RUDKIN briefly returned thanks, hoping that he should, at no very distant day, see the society equal, if not excel, that of Smithfield, to which consummation it was now proceeding with rapid strides.

“The Successful Candidates.”

Mr. BULLOCK acknowledged the toast: he had never, during his whole career of agricultural life, anticipated the pleasure he now experienced—old as he was, he was well convinced that no one felt more anxious than himself for the prosperity of the society, which it would always be his pride and pleasure, as far as his humble means extended, to promote (*cheers.*)

STAFFORD O'BRIEN, Esq., also returned thanks: he should be very ungrateful to the society were he to remain silent to the toast just given, having gained that day the premium for which he showed, which he believed to be seven guineas; but as he did not show for profit, he begged that their society would allow him to return it to their fund, for their use at the next meeting. (*Great Cheering.*) He also considered himself highly honoured by having had that day presented to him a Silver Medal, as the breeder of the best beast in the yard. In conclusion he must propose “The Unsuccessful Candidates,” whom he complimented highly, affirming that the society was most deeply indebted to them, for that, without them there would be no competition—without competition, no zest to conquest. (*Applause.*)

The CHAIRMAN then begged to propose “Mr. Baker, and success to the Cottesmore Ploughing Meeting, the Small Allotment System, and the Cottesmore General Friendly Institution.”—In offering this toast to the notice of the company, the Chairman observed, that he had known the county of Rutland for many years, and was convinced that no individual had done so much towards the improvement of its agriculture as the gentleman whose health he now proposed. He had visited him (Mr. Baker) at his annual Ploughing Meetings—he had strictly inquired into his Allotment System—and, convinced of its beneficial results, had endeavoured to copy it; he had also attended some meetings of the Cottesmore Friendly Institution, and its arrangements appeared to him of no small importance to the moral happiness of the class to which it applied. It must be evident to all, that it required a man of no mean capacity who should be able to work out these Institutions with so much effect. As to agriculture (continued the chairman) see what he has done—look generally, gentlemen, into his extraordinary exertions in the cause, and you will think as I do—that we are all more or less indebted to him. He was the founder of this Society, and to his attention much of its present prosperity is owing. He exhibits his cattle; he either breeds or buys for your use the best animals he can—which you may breed from. In conclusion, I believe, nay, I am convinced, that he has acted upon philanthropic principles, and a pure love for agriculture alone. (*Drank with much applause.*)

Mr. BAKER rose.—Gentlemen, I feel much complimented by the general remarks of our worthy Chairman, and the kind and flattering manner in which you have received the toast of my health, and prosperity to the Institution to which he has alluded—and for this handsome notice of me, I beg most sincerely to offer my best thanks; but allow me to

observe, that I fear the worthy and really good-hearted Chairman has coupled my name with this Institution too strongly and too flatteringly. (*No no.*) It is true that I did, in its formation, and long before its formation, direct my attention most particularly to ascertain the good effects capable of being produced by the institution of a society like the one now under our particular notice; but for its present unexampled prosperity I can take little or no credit to myself—having in fact done *little*, and others having effected so much *more* than myself; and of those, none more effectually than the gentlemen now in office as Stewards and Secretaries, and indeed, all who have held those offices—and I think I may add also the whole of the members, who have all exerted themselves in bringing about and carrying on one of the most useful institutions in this country, for the encouragement of its agriculture—the main-spring of all wealth. I thank them most sincerely for those exertions, worked by the *many*, but appearing in effect to be the result of *one mighty* spirit: all have united as one, and therefore, from the slight digression of our worthy Chairman, I beg to escape. I am aware that of late I have withdrawn myself greatly from the business of this society, and have directed my attention more earnestly to my own—and upon this I can with much satisfaction report progress. At my Annual Ploughing Meeting in September, which was honoured by the attendance of some thousands, better work was done than upon any former occasion, and the number of ploughs had increased from nine to fifty-three. Ploughing must, indeed, be considered as the foundation of agriculture—the very vitals of all that is present, and all that is to come—and I take the present public opportunity of thanking those gentlemen who had availed themselves of the opportunity of sending ploughmen and boys to compete for those premiums. I trust it will always prove serviceable. At the last annual meeting of this society, I announced that there would be a meeting at Cottesmore in 1836; and I now, under providence, promise one in 1837. It was true, I had none of the Vice-presidents upon that occasion, which would render unnecessary the remark applicable to this day, that out of twelve only three attended. In reference to my system of Small Allotments, to which the Chairman has honourably alluded, I am happy to say, that not less than 700 persons in this small and thinly-populated county had been benefitted by this excellent arrangement, emanating from Sir Gerard Noel, and under his own particular direction. The Rutland General Friendly Institution, I am also pleased to have to announce, is rapidly advancing, and has now accumulated nearly 600*l.*, the savings of the working classes, comprising at this time more than 200 members. What I have done in these several branches, others might have effected equally—but I hope, through this medium, a means has been given for the introduction of improved implements of husbandry. Indeed, it is a notorious fact, that more than 2,000 ploughs of the improved make, comprising simplicity of construction and lightness of draught, are now working in this district, where not one was in use previous to the commencement of the Cottesmore Meeting twelve years since. I trust that all agriculture has benefited, and will benefit, by them. I have only to conclude by thanking you for the patience with which you have favoured me, and, with the permission of the Chairman, I beg to propose “Prosperity to the Labouring Classes.”

This having been well received, the CHAIRMAN gave “Sir Gilbert Heathcote,” which was acknow-

ledged by G. J. HEATHCOTE, Esq., who proposed “Success to the Cattle that may be sent from this Society, to compete at the Great Smithfield Show.”

“G. Finch, Esq., of Burley.”

Mr. CHEETHAM rose. Mr. Chairman and gentlemen, (he said), as a grateful tenant to a most excellent landlord, I cannot suffer the last toast to pass unnoticed; I therefore, in the name and on behalf of Mr. Finch, beg to offer you my most cordial and heartfelt thanks for the compliment you have just paid him, and to assure you that I had it from his own lips (when speaking of this meeting,) that nothing would have given him greater pleasure than to have attended here to-day, but that domestic arrangements entirely precluded the possibility; however, of this I am certain, that this society does not number in its list of members the name of any robleman or gentleman more solicitously anxious for its prosperity. But, gentlemen, it is not this society only that enjoys his good wishes; his best energies are devoted to the benefit of society generally, and if I were to attempt to recount to you all his many virtues, I should occupy too much of your time, and it might perhaps be considered irrelevant to the objects of this meeting. I shall, therefore, content myself with briefly stating, that he discharges all the relative duties of landlord, husband, father, friend, and neighbour, alike honourable to himself, and beneficial to all around him. Gentlemen, it is extremely gratifying to me to observe the good feeling which exists between this and other societies of a similar description. I attended a meeting of this kind at Waltham a short time since, and was particularly pleased with a device at the head of the room—it was the word “unity,” and, gentlemen, by “unity,” and perseverance we have attained our present elevated position in the scale of societies. Gentlemen, our Chairman, in alluding to the commencement of this society has attributed its origin to Mr. Baker, which is not quite correct, as the first idea originated with Mr. Bryan; Mr. Baker certainly was very instrumental in assisting to carry into effect the rules and regulations of the society with efficiency, because he was better acquainted with the arrangements necessary on such occasions than almost any other gentleman in the neighbourhood, but as I before observed, the first idea certainly did originate with Mr. Bryan. Gentlemen, I cannot forget that on the 7th of Nov. 1830, Mr. Baker, Mr. Painter, Mr. Baines, Mr. Bryan, a few others, and myself, met in this room to concoct our first bill of premiums, when I assure you that it was matter of exultation to us to be able to offer five sovereigns as a first prize in the class, and I entreat you to compare that, with our present bill, assuring you, at the same time, that our proud station has not been attained without “unity and perseverance.” Gentlemen, I again beg to offer you my most cordial thanks in the name, and on behalf of Mr. Finch, for the honour you have done him; and with the permission of our worthy Chairman, I shall conclude with proposing to you as a toast the health of “Mr. Wilson of Alexton, and prosperity to the Leicestershire Agricultural Society.”

Mr. WILSON returned thanks in an able speech amid general applause.

“Mr. Beasley and the Waltham Agricultural Society.”

Mr. WILMOT returned thanks in the absence of Mr. Beasley.

“Lord Lonsdale and Fox-hunting.” (*Cheers.*)

The CHAIRMAN then gave “The most noble the Marquis of Exeter,” complimenting him at some length, as a good breeder, an excellent landlord, and a staunch supporter of Agriculture. (*Cheers.*)

CHAIRMAN—"Lord Wiloughby de Eresby." G. J. Heathcote, Esq. acknowledged this toast.

"J. M. Wingfield, Esq., and the County Magistrates."

The CHAIRMAN then proposed the health of "E. W. Wilmot, Esq." who acknowledged the compliment in a brief speech:

The following toasts were then drunk, with due honour:—

"Mr. Handley, and success to the Grantham Agricultural Society,"

"Lord Spencer, and success to the Smithfield Agricultural Society."

Some other toasts were drunk—and many excellent speeches delivered, containing sentiments honourable to the speakers as agriculturists, and, after an evening spent in the most uninterrupted sociality, and in which the utmost credit is due to the excellent Chairman, for his successful exertions to promote concord and hilarity, the party broke up.

PRIZES.

- Class 1. Oxen or Steers. First prize, Mr. Bullock, Manton—15 sovs. Second ditto, Lord Exeter, Burghley—7 sovs.
- Class 2. Oxen or Steers. First prize, Mr. Baker, Cottesmore—10 sovs. Second ditto, Mr. Smith, Burley—5 sovs.
- Class 3. Oxen or Steers. Mr. Cheatham, Hambleton—7 sovs.
- Class 4. Oxen or Steers. First prize, Mr. Baines, Brook—10 sovs. Second ditto, Mr. Hotchkinn, Edenhams—5 sovs.
- Class 5. Cows or Heifers. First prize, S. O'Brien, Esq., Blatherwycke—7 sovs. Second ditto, Mr. Coverley, Castle Bytham—3 sovs.
- Class 6. Dairy cows. First prize, Mr. Hotchkinn, Edenhams—7 sovs. Second ditto, Mr. Bland, Baston—3 sovs.
- Class 7. Pair of Steers. Mr. Baker, Cottesmore—5 sovs.
- Class 8. Long-woolled Wether Sheep. First prize, Lord Exeter, Burghley—7 sovs. Second ditto, Mr. Painter, Burley, 3 sovs.
- Class 9. Long-woolled Wether Sheep. First prize, Mr. Painter, Burley—5 sovs. Second ditto, Mr. Rudkin, Langham Lodge—3 sovs.
- Class 10. Long-woolled Wether Sheep. First prize, Mr. J. Burgess, Ridlington—7 sovs. Second ditto, Mr. Bradshaw, Burley—3 sovs.
- Class 11. Breeding Ewes. First prize, Mr. Wilmot, Pickwell—5 sovs. Second ditto, Hon. H. C. Lowther, Cottesmore—3 sovs.
- Class 12. Pigs. First prize, Mr. W. Fryer, Pickwell—3 sovs. Second ditto, Mr. Lamb, Colsterworth—1 sov.
- Class 13. Pigs. First prize, Mr. Stimson, Oakham—2 sovs. Second ditto, Mr. Barnett, Oakham—1 sov.
- Class 14. Draught Stallion. Mr. Thacker, Canwick—10 sovs.

BY STAFFORD O'BRIEN, ESQ.

- Class 15. The best Bull. Mr. Baker, Cottesmore—5 sovs.
- Class 16. The best Cow. Mr. Baker, Cottesmore—5 sovs.
- Class 17. The best Heifer. Mr. St. Cheatham, Hambleton—5 sovs.

BY SIR GERARD NOEL NOEL, BART. M.P.

- Class 18. Best Cow. Mr. Hibbett, Exton—5 sovs.

BY E. WILMOT, ESQ., PICKWELL.

- Prize of 3 sovs. to W. Skellet, labourer, S. Luffenham.
- Prize of 2 sovs. to W. Chamberlain, labourer, Burley.
- Prize of 1 sov. to T. Freeman, labourer, Ketton.

BY THE REV. H. NEVILLE, COTTESMORE.

- Four bushels of Wheat, Mr. Baines, Brook—2 sovs.
- Four bushels of Barley, Mr. Chapman, Whitwell—2 sovs.

BY SIR GERARD NOEL NOEL, BART. M.P.

- Four bushels of Oats, Mr. Rudkin, Langham Lodge—2 sovs.

BY MR. H. J. RUDKIN.

- Four bushels of Beans, Mr. Rudkin, Langham Lodge—2 sovs.

EXTRA PREMIUMS.

- A silver medal to Mr. Painter, as breeder of the best pen of sheep in Class 10.
- Ditto to Mr. Burgess, as breeder of the best pen of sheep in Class 10.
- Ditto to S. O'Brien, Esq., as breeder of the best heifer in the district.
- Ditto to E. W. Wilmot, Esq., as breeder of the best pen of ewes in Class 11.
- Sweepstakes of 2 sovs to Mr. W. Fryer, as feeder of the best pig.

The Extra Stock was much commended.

COMMUTATION OF TITHES.

In another part of this Magazine we give a very satisfactory account of the successful working of the Tithe Bill in an agreement which has been concluded between the land owners and the rector of Bradwell, a parish in Essex. We are now enabled to lay before our readers an equally satisfactory account of the operation of that Bill, in a narration of the proceedings which took place for the same object at Tong, a parish of Kent, a short distance from Sittingbourne.

The meeting took place at the parish church on Thursday the 1st inst. Nearly the whole of the landowners assembled, and Henry Pilkington, Esq., barrister, attended as agent for the Archbishop of Canterbury, and Neill Malcolm, Esq., of Lamb Abbey, in the same county, who are joint owners of the rectorial tithes, and the Rev. J. Timms, the vicar.

In his address to the meeting the Learned Gentleman stated that he was instructed by his clients to meet the gentlemen with whom he had to treat, in the true spirit of conciliation and moderation, and to say that any proposal which was made on a fair and equitable basis would receive the most favourable attention. This proper feeling and good judgment on the part of his Grace and the gentlemen connected with the tithes, was immediately met with corresponding liberality by the landowners.

They stated that they had not the least desire to reduce the income of the titheowners, but that, while they thought it only fair that, in return for the great additional security and advantage which a rent-charge upon their estates would give to the titheowners over the old and unpopular method of collecting their income, some little advantage ought also to accrue to themselves; they were happy to observe that owing to the very great diminution of the poor-rates—less than one-half—this might be effected without any loss to the owners of the tithes. They considered that on a fair calculation, from the experience of the last year, and the future prospects of the parish, a deduction of at least 42l 10s per annum, might be expected in the poor rates hitherto paid by the rectorial glebe. They were only desirous of having the benefit of this reduction, which would leave, if their calculations were correct, their full usual income to the titheowners. The average rental of the rectorial tithes for the seven years preceding Christmas, 1835, was 435l. The average amount paid by them for poor rates to the same period was 107l 10s. They proposed to let the rental stand as it was, and to deduct 42l 10s from the sum hitherto paid for poor rates.

This appearing to Mr. Pilkington an equitable

proposal, was immediately accepted by him on the part of the rectorial titheowners.

On the vicarial tith the landowners were desirous of making the same proposition of reduction; but on an appeal to their feelings by Mr. Pilkington, on the ground of the smallness of the vicarial income, they with the greatest generosity abandoned all idea of advantage to themselves, and allowed the rev. gentleman a rent-charge fully equal to the profits which he had hitherto received, and more than equal to his expectations.

Thus has conciliation and moderation on the one hand been met with generosity and kind feeling on the other; and as this is the first instance of an agreement for commutation having been effected in the county of Kent, a county in which, probably, more dissatisfaction with the measure has been shown than in any other, we hail the result of this meeting as an omen of the future success of the Bill—a Bill which we firmly believe has only to be fairly considered, to be equally appreciated by both parties as a benefit to two great interests of the state, which a bad system has too long and too often set at variance.

ON WOOD-EVIL AND MOOR-ILL, IN REPLY TO MESSRS. MAYER AND SURGINSON.

BY MR. W. COX, OF LEE.

(From the Veterinarian.)

I feel myself called upon to make a few observations on the papers of Messrs. Mayer and Surginon on wood-evil and moor-ill, contained in the last number of *The Veterinarian*, and to illustrate these observations by a practical fact or two.

If Mr. Mayer will again look over my communication, he will find that I merely stated the opinion of various farmers as to the complaint which I call moor-ill, and which he thinks I have confounded with a kind of rheumatism of frequent occurrence on cold and wet ground. May I not ask him whether, out of fifty-two cases of this disease which I have seen this year, both in the commencement and the advanced stages of it, I should not have observed the swelled joints, and other symptoms of that complaint, described by Mr. Youatt in his work on cattle, and by other writers of minor authority, if it had in truth been a kind of rheumatism, whether chronic or acute?

I was called this summer to see a cow belonging to Mr. Snow, of Park-head, that had inflammation of the liver. On looking over his dairy I found three cows affected with what I call moor-ill. He told me that it was a complaint produced by the pasture on which they had fed; but that as soon as he put them on his after-grass they would mend, which they did. I observed that the first pasture and the meadow-ground were contiguous—they were separated by a wall. May I not here ask, would the chilling wind of September and October, exchanged for the warm weather of June, July, and August, cure “a kind rheumatism by a mere change of herbage, but neither of soil nor of climate?”

There is another farmer, whom I have known for many years, who had a particular field into which he turned all his cattle that were attacked by moor-ill, and they almost immediately were cured. He has been obliged to part with that field, and he laments it; for he has no longer a remedy and certain means of getting rid of the disease. I could adduce many other facts of the same nature if it were necessary; and perhaps I may be forgiven if I add,

that I ought to be, and think I am, well acquainted with rheumatism in cattle, both in its chronic and acute form, and from the calf in the stall to the sturdy ox.

Mr. Mayer, in stating the causes of what he calls moor-ill, enumerates bad food, bad water, leaves of the black willow, and luxuriant after-grass. They, or some of them, may be concerned in the production of wood-evil, or other complaints incident to cattle; but they cannot always be adduced as the cause of moor-ill.

As to Mr. Surginon, I agree with that gentleman in two particulars; that the cause of moor-ill is very obscure, and that poor land is not the sole cause of it. I know very poor ground in various parts of my neighbourhood where the disease is almost or altogether unknown.

As to what I call wood-evil, I take it to be nothing but constipation of the maniplus, and which will arise from various causes, and differ in its symptoms according to the difference of the cause. In this I am, in some measure, borne out by some modern as well as ancient authors, who use the terms wood-evil, moor-ill, pantas, maw-cound, and fardell-bound, indiscriminately, as indicating one and the same disease.

I consider the disease moor-ill or wood-evil to be a kind of garget, without the swollen udder which will shew itself in plethoric cattle in May and June, and sometimes in after-grass time, or any time when the grass is luxuriant and the weather changeable. It is known among some farmers and graziers by the names body-garget, humours in the blood, &c. I have seen it without constipation; and after the inflammation has subsided, and the bowels have been opened in consequence of bleeding and purgatives, I have seen the patients remain stiff and sometimes lame for a certain period. A few diuretics, or tonic-diuretics, according to circumstances, constitute the whole art and mystery of treating this stage and form of the disease.

In conclusion, I beg to remark, that some of the cattle that laboured under what I call moor-ill have been cured; and others that were not thought worth medical treatment through the approaching winter, have been destroyed, so that I cannot produce many cases for inspection; but if providence should spare me to the beginning of another August, I shall be very happy to see any candid and well-informed brother practitioner to assist me in investigating the real nature of this disease. I have now three cases of moor-ill, of which I will send you the particulars, if you will insert them in your excellent periodical.

THE QUANTITY OF MALT CONSUMED BY THE UNDERMENTIONED BREWERS OF LONDON AND VICINITY, from 10th October, 1831, to 10th October, 1836.

This statement is official; that which appeared in the Farmer's Magazine for December is inaccurate.

	1831.	1832.	1833.	1834.	1835.	1836.
	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.
BARCLAY & Co.	97198	96612	93175	99974	106098	108715
Hanbury & Co.	50724	58812	58407	74982	78087	83903
Whitbread & Co.	49713	53541	50067	49105	53209	53394
Reid & Co.	53109	44420	10810	14210	14930	49831
Combe & Co.	34684	36948	35970	35438	36922	42169
Calvert & Co.	30525	32812	31433	31460	33263	30859
Hoare & Co.	24102	26821	25107	29796	31525	32623
Elliott and Co.	19444	20061	19899	25009	28728	28338
Meux & Co.	24339	22062	20718	26161	24376	30775
Taylor & Co.	21845	21735	21115	20835	23855	19445

[In consequence of changes in the titles of the firms,

we are unable to continue the above comparative table. We refer those of our readers, who may be desirous to ascertain the quantities respectively used by the firms subjoined during the years, 1831, 1832, 1833, 1834, and 1835, to "THE MARK-LANE EXPRESS" of 7th Dec. 1835.]

1836.	1836.	
qrs.	qrs.	
Charrington & Co. 19445	Hood	839
Gardner & Co. 13321	Clarke, S.	837
Ramsbottom 15364	Holt	813
Gardner	Mantell	807
Hazard	Manvell	805
Goding, Thomas ..	Turner	786
Bricheno	Jenner	772
Courage & Donaldson	Mann	766
Wood & Co.	Church	756
Crowley	M'Leod	748
Hazard	Ufford and Co. ..	731
Tickell	Turner	716
More	Jones	700
Harris	Lock	620
Mann, James	Addison	619
M'Lead, B.	Slatterie	609
Farren	Kershaw	596
Hale	Collins, W.	527
Halford and Topham	Wright	520
Stains and Fox ..	Harris	497
Laxton	Woodward	490
Richmond	Wicks	479
Hodgson	Mattam	476
M'Lead & Thompson	Thurlby	468
Maynard	Wells	465
Johnson & Wyatt.	Higgs	455
Page	Parker	454
Griffith	Hill	424
Sherborn & Co. ..	West	406
Abbott	Chapman	400
Lambert	Reynolds	380
Duggan & Gaskell	Devey	364
Satchell	Verey, J.	363
Williamson	Todman	357
Lamont	Lindsay	346
Cox, John	Green	341
Hill and Rice	Griffiths	327
Masterman	Hucker	313
Soulby	Cooper	310
Hayward	West	295
Gray and Dacre ..	Thompson	294
Plimmer	Pugh	293
Tubb	Clark	275
Ing	Kay	250
Verey, W. & C. ..	Olley	250
Colyer	Lloyd	240
Collins, J.	Powditch	238
Clarke, C.	Meaton	215
Hume	Stirling	209
Honeyball	Smith	208
Blogg, B.	Hopkins	201
Filmer and Wall ..	Champion	193
Buckley and Co. ..	Haviland	190
Blogg, William ..	Ambler	188
King	Ward	187
Braithwaite	Gower	186
Kerry	Prosser	181
Clarke, R.	Easton	150

The remainder of the 192 firms enumerated having consumed less than 150 qrs of Malt, we have not particularized them, but making the total consumption
 In 1836 734,319 qrs. || In 1835 | 702,533 |

Increase in 1836

31,786

‘AGRICOLA’ AND THE FARMERS OF ENGLAND.

TO THE EDITOR OF THE FARMER'S MAGAZINE.

SIR,—Whoever has read the "Remarks on the Present State of Agriculture," by C. S. Lefevre, Esq., in his address to the electors of North Hampshire, connected with the proceedings of the late agricultural committee, will, I think, do him the justice to admit that nothing can be more straightforward and comprehensive. It bears ample testimony in itself that it is the production of a person who has endeavoured to make himself acquainted with a most complicated and perplexing subject in all its details; and however the farming community may not be able to coincide with that gentleman to the full extent of his conclusions, in a matter, to them, of such vital importance, and fraught with such dangerous consequences as would undoubtedly arise out of an alteration of the corn laws, yet no one can for a moment doubt the sincerity of Mr. Lefevre's intentions.

That there are persons, however, who, from party spirit, or a decided hostility to the aristocracy and the landed interest, are ever ready to pervert the soundest reasoning, and make it subservient to unworthy purposes, is evident from the intemperate and unjustifiable language which some writers think proper to indulge in; and I must needs confess that I cannot regard the letter of "Agricola," specially addressed to the "Farmers of England," in any other light. This writer first denounces the Marquis of Chandos as the "great pretended friend and stickler for the rights and interests of the farmer," which is too palpably absurd to require comment: there are madmen who profess to regard the Duke of Wellington in the same view in his relationship to the army—but let that pass. Agricola then proceeds to cite the words of Mr. C. S. Lefevre, "that the farmers never were told what was the true state of the case. They had too great a dependence upon corn laws: therefore, I said they ought in the first instance to look to their landlords, and that when they had fairly and properly reduced their rents, the farmers must rely on the other sources possessed in common by all agriculturists, by which many are enjoying a state of comparative prosperity." Now there is not a single word here which either Whig or Tory, landlord or tenant, can find to cavil at. The farmers are simply told that the legislature dared not attempt to afford them any relief by interfering with the corn laws—the existing regulations had already secured to them the monopoly of the market, without producing the desired effect, and beyond this no sort of legislation would be available—that they must therefore first look to their landlords for an abatement of rent, and afterwards avail themselves of that degree of knowledge which science had imparted to the present age, in order to effect a permanent amelioration in their condition. But what are we to argue from the vituperation which exhibits itself in every line of the tirade which follows? The most scurrilous abuse is unsparingly heaped upon the "domineering and grasping landlords, the huge monopolisers that sit in judgment on their own interests, and the farmers of England are admonished, forsooth, that although the exactions of rack-renting landlords, and the plunderings of tithes-gathering parsons may keep them poor, their own better principles must keep them honest, i. e., they must not seek to divide the pressure of local and general taxation between themselves, the capitalist, and the furdholder.

But what says the Marquis of Chandos? Why, "that Mr. Lefevre has asserted, 'that there is evidently

A HINT TO THE WORKING CLASSES.—If a man at 21 years of age began to save 4s. a week, and put it to interest every year, he would have—at 31 years of age, 130l 15s 14d; at 41, 371l 7s 7½d; at 51, 735l 14s 11½d; at 61, 1,229l 5s 2½d; at 71, 2,296l 4¾d.

no want of sympathy on the part of the landowners for the condition of their tenantry," in which assertion he (the Marquis) perfectly coincided, and he felt grateful to Mr. Lefevre for having stated this important fact; "a fact, I apprehend, which the farmers of England, taken as a body, will be the last to disavow. But if there are individuals who, having had liberal abatements made upon their rents, are still dissatisfied because they were only abatements, and not a virtual departure from existing contracts, let me remind them that what is applicable to a government is also applicable to an individual, and therefore by a parity of reasoning, to make use of Agricola's own words, which are put in italics, I will proceed briefly to consider what relief, were they ever so wishful and disposed, it is in the power of the landlords to grant them. But before going any further into the question, I must remind them that there are such things as mortgages and other pecuniary obligations, and moreover as they cannot be paid off *ad libitum*, individual credit must be kept up by paying annually the interest thereon. Now to raise this interest and carry on the domestic government, rents have been instituted, first in kind, when the wants of man were limited, but now in money, to meet necessities incident to an improved condition of society, and I wish merely to establish this principle in as few words as possible, namely, that the amount of revenue derived from capital, of whatever nature, must be equal to, or above the amount of the interest of the debt and other contingencies. This being the case, and an admitted fact, they will see at a glance that it is quite impracticable, nay, completely impossible for many landlords to reduce their rents, without having previously saved the amount by a reduction in the several items of expenditure, that came under the head of servants' wages, tradesmen's bills, taxable articles, &c.

Mr. Lefevre has candidly admitted "that any reduction of the malt duty, which causes an increased demand for barley, would operate most beneficially on the interest of agriculture;" to which statement Agricola applies the salvo "that as there are no taxes on which the deficit occasioned by a repeal of the malt tax could be laid, this plan will not answer, and moreover it is quite convenient for him to overlook that the payment of a tax is compulsory, whereas the payment of rent arises out of a previous voluntary agreement; yet because the former cannot be conveniently dispensed with, it must be paid; and because the latter cannot conveniently be paid, it must be dispensed with!

W. N.
Dilham, Norfolk, Dec. 6.

The King takes an active interest in the success of the new Poor-law. When it became necessary for the Windsor Union to build a new workhouse, his Majesty was applied to to allow a site to be sold on the crown land. The Commissioners of Woods hesitated; and some persons about the Court were very urgent to prevent the request being complied with. The King, however, sent for the assistant commissioner, examined the map and plans himself, and finally determined that the ground required should be applied for the building. The spot is visible from the terrace at Windsor, and it was for this reason that the objections were raised.

The new Title Commissioners have decided that a rector cannot make any agreement to bind his successors in the living with respect to the new hop grounds.

THE NUMBER OF HORSES IN ENGLAND AND WALES.

(From the Veterinarian.)

Having for some time been a constant subscriber to that valuable journal THE VETERINARIAN, I may, perhaps, be allowed to request, through the medium of it, an answer to the following question, which I have no doubt some one of your very ingenious and well informed contributors will be able to furnish:—"What is the fairest estimate of the total number of horses employed in Great Britain for all the purposes of pleasure and utility to which they are subjected?"

If the gentleman who will oblige me by answering this will, at the same time, be so kind as to state on what data he founds his calculation, he will confer an additional obligation on me.

O. H. F.

I copy from Mc'Culloch's Dictionary of Commerce (an expensive but an invaluable work, and not half so well known as it ought to be) part of an official statement of the number of horses of various descriptions that paid duty in 1814, when those that were used in husbandry were taxed, and also of another statement, when horses used in agriculture were exempt:—

Horses used for riding, drawing carriages, and charged at progressive rates:—

	1814.	1832.	No. of horses	No. of horses
Persons keeping			1814	1832
1 horse	161,123 ..	123,668	161,123 ..	123,668
2 horses	15,921 ..	15,337	31,842 ..	31,074
3 do.	4,258 ..	3,580	12,774 ..	10,740
4 do.	1,903 ..	1,461	7,612 ..	5,844
5 do.	734 ..	642	3,670 ..	3,210
6 do.	510 ..	356	3,060 ..	2,136
7 and 8	..	..	3,372 ..	2,204
9 do.	80 ..	59	720 ..	582
10 to 12	..	..	079 ..	1,354
13 to 16	..	..	746 ..	719
17	3 ..	3	51 ..	51
18	8 ..	7	144 ..	126
19	2 ..	4	38 ..	76
20 and upwards	..	..	1,348 ..	1,142
Horses let to hire	..	..	1,454 ..	2,073
Race-horses	..	..	560 ..	997

Other horses exempt in 1814, but taxed when the agricultural tax was withdrawn:—

Horses used for riding or drawing carriages, and not exceeding 13 hands	19,121 ..	24,639
Horses rode by farming bailiffs	1,251 ..	1,438
Ditto by butchers, when one only is kept	2,089 ..	3,364
Ditto where two are kept solely for trade	1,025 ..	1,213
Horses not chargeable to any of the foregoing duties, yet taxed	112,989 ..	123,728
Mules	410 ..	348

Horses taxed for agriculture in 1814 973,714

1,341,292

It is probable that the horses used in agriculture increased in number when the tax was withdrawn, and that during the agricultural tax many more

horses of small size, and for various purposes, were kept; and we shall not be far from the truth if we average the whole number of horses at about 1,340,000. But this does not include stage-coach, mail-coach, and hackney-coach horses, nor those used in posting: these may be reckoned at 125,000. To these must also be added young horses, for they are not taxed until they are used for drawing or riding; and if we average the age of the horse at eight years (and that, perhaps, is over the mark), they will be nearly 200,000. Then there is roguery in all things, and a great number of horses were not taxed at all. A glance at the number of those which are said to be let for hire in England and Wales, will speak volumes with regard to this. If we suppose that there are 35,000 that are in this predicament, or that do not rank under any of the divisions in the table, we may safely calculate "the total number of horses employed in Great Britain" at 1,700,000. To this must be added the Scottish and Irish horses.

Y.

AGRICULTURAL COMMITTEE OF 1836.

A LETTER TO H. HANDLEY, ESQ., M.P., IN ANSWER TO MR. SHAW LEFEVRE'S PAMPHLET.

BY E. S. CAYLEY, ESQ., M.P.

Wydale, Sept. 13, 1836.

MY DEAR SIR,—I have, for some weeks been anxious that the farming public, at least, should have a faithful exposition of the cause *why no report* proceeded from the Commons' Committee on Agriculture. I had left London, for good, the morning before the discussion on this point unexpectedly arose in the House of Commons; but I was in hopes that, before the session closed, some of *our* friends on the committee, who happened to remain in town, and had only been accidentally absent on that occasion, would have taken an opportunity to have contradicted some of the more glaring inconsistencies which were displayed in that most unsatisfactory discussion. In this hope I have been disappointed; and the letter of our late chairman to his constituents, leaves me no alternative but to say a few words on the subject; in which I shall attempt, shortly, to describe the course of our proceedings; making, at the same time, some observations upon them. And I appeal to you, in your triple character of a constant attendant in the committee,—as one of the best, if not the very best, practical farmers on the committee,—and as also possessing a thorough knowledge of the causes which led to the distress, —whether I am not correct in the following statement.

The House of Commons gave us the fullest powers to investigate the cause of agricultural distress. The Ministers named the committee; three additional members were added by the House. Our first meeting was to choose a chairman, Mr. Shaw Lefevre; who was proposed by Lord John Russell, and unanimously elected; and on his excellence as a chairman, on his patience, impartiality, and gentlemanly bearing in conducting the inquiry, there was not, I am confident, a dissentient voice in the committee.

Our second meeting was to arrange proceedings. An attempt was, then, made to limit the inquiry

to the period which had elapsed since the sitting of the committee of 1833. This attempt was overruled; the ministers present, I am bound to say, threw their weight into the scale in favour of the inquiry being unlimited both as to time and matter.

We then entered upon the examination of witnesses—the first being those summoned by Lord Chandos, who proved distress, indeed, but nothing more; they could speak little or nothing as to causes. The greater part of the first volume of evidence is taken up by witnesses of this description. The second volume is occupied by the evidence of witnesses of more general information, and affords a glimpse, at least, into the causes of the long-continued distress in agriculture which it was our principal duty to discover.

The third volume (not yet published) will contain the evidence of the Scotch and Irish witnesses; and will conclude with the evidence of Mr. Spooner, Mr. Burgess (secretary to the Country Bankers' Society), Mr. Haggard (chief clerk of the Bullion-office for a number of years), Mr. Muntz (a merchant of Birmingham), the Earl of Radnor, and Lord Ashburton late Mr. Alexander Baring), on the question of the currency; which some of the committee contended was the cause of the fall in prices, and, consequently, the principal cause of the distress. To give evidence on the currency, we requested, also, the attendance of the Right Honourable Edward Ellice, Sir James Graham, Bart., and Mr. O'Connell. The latter was only prevented by his close attendance on an Irish private committee. It is well known that Mr. O'Connell attributes the agricultural distress of Ireland, especially of the labourers, to the change in the currency. The famine of 1822, in Ireland, was a famine of money, not of bread. It was so described by the best authorities, at the time, to the Irish Relief Committee sitting in London. Mr. Ellice and Sir James Graham refused to give evidence; and their refusal prevented us requesting Sir Robert Peel to attend, as had been our intention.

You will remember that, at the outset of our proceedings, I proposed a course something to the following effect:—The distress being acknowledged, and that its cause was lowness of price, that we should attempt to account for this fall in every way possible except currency, in the first instance; that we should, then, inquire how far the change of the currency of 1819, and its concomitant measures, had produced the remainder of the fall in price, which could not be accounted for by other means. This course, if at all, was but imperfectly adopted in practice; although I think you agree with me, it would have been the legitimate course for arriving at the truth; while it gave every advantage to those who held a contrary opinion to my own.

The desire of those on the committee who thought with us, was to test the soundness of the opinions of witnesses by cross-examination. The evidence is, or will be published, to speak for itself. I, for one, did not summon a single farming witness; content to endeavour to elicit the truth from such as were brought up by others, lest it should be said that mine came to speak to particular opinions. Few of the witnesses were competent to speak to the general causes of the distress. Men like Mr. Hodgson, of Liverpool, could speak to the probable supply of corn, and to the supply from previous harvests. Intelligent and observing farmers could answer pretty correctly for

the crops of their own particular districts; and by comparing particular periods of distress with acts of the legislature, or failure of crops, could assist the committee in forming an opinion as it respected the whole country. But scarcely any witnesses can be taken alone, as affording a correct estimate of the causes of distress, although some must be received with greater confidence than others on particular points. Out of a mass of evidence, such as we had before us, it is not difficult, by detached passages, to strain the evidence so as to favour particular opinions. I place my reliance on the evidence as a whole.

Lowness of price had to be accounted for, especially in wheat. When first we entered the committee, the prevailing opinion of its members certainly was that it was greatly owing—

1st, To increased importation from Ireland;

2nd, To three or four successive abundant harvests, *i. e.* to an over-supply.

3rd, To a greater quantity of land being brought into cultivation; to the light land succeeding at the expense of the heavy; or, as it was termed, a good machine driving out a bad one.

How were these theories supported by evidence?

1. It was proved by the returns, which, at least, were undoubted, that, taking wheat and wheat flour together, there had, since 1833, been a decrease in the importation each year of about 100,000 qrs. *During this decrease in the supply from Ireland, wheat had fallen in price 20s a quarter.* Increased importation from Ireland, therefore, would not account for the fall in price.

2. The witnesses summoned to speak to the harvest were, Mr. Hodgson, Mr. Scott, and Mr. Sandars, of Liverpool, and Mr. Sturge, of Birmingham, all eminent corn factors, and in the habit of taking a pretty extensive survey of large districts of the kingdom, previous to harvest with a view to arranging their speculations in corn.

Mr. Hodgson (of the firm, Cropper, Benson, and Hodgson) has generally been the person most relied upon in the question of the probable supply of wheat. For about twenty years he has estimated the growing crop by a particular method. He sends agents round the country, and, in reference to an arbitrary figure, he is shown whether it is an average crop, or above or below, and in what degree.

Mr. Sandars seemed to rely on the instrument of Mr. Hodgson. He says that Mr. Hodgson's plan is "one that cannot by possibility err."

Mr. Scott (wholly free from any theories on the subject) had extensive personal observation, and corresponded with all parts of the kingdom, and had been in business forty years.

Mr. Sturge is the writer of a valuable periodical circular, on the subject of the supply and the crops, and has great communication with Ireland. It was at my suggestion that the two last gentlemen were examined. I knew neither of them personally, but had read for some years their excellent reports in the *Mark Lane Express*.

What says Mr. Hodgson? In his *leading* examination he tells the committee that the crop of wheat was, in 1832, rather above an average; 1833, rather above an average; 1834, a very full crop; 1835, nine per cent. more than an average: and yet, on *cross-examination*, he is asked—"Your way of judging of the crop is by a certain figure, in comparison with some theoretical figure in your own mind?"—"Yes." "You state that you now conceive that, in 1832, there was a good crop?"—"Yes, that it was a crop of supply." "Your

figure was one beneath supply?"—"It was barely an average figure, and of course below the figure of supply." "You have stated that 1833 was above an average; how was your figure for that year?"—"The figure of that year was not materially different from the figure of the year preceding." "Then it was rather below an average?"—"It was." "How was the figure for 1834?"—"Very high." "How was your figure for 1835?"—"An average crop;" *i. e.*, below the figure of supply.

Mr. Scott gives a registered account of the crops of wheat each year since 1809. Of the years in question he says—1832 was a large average; 1833, deficient; 1834, fair average; 1835, moderate average. Mr. Sturge describes—1832, as a full average crop of wheat; 1833, an average crop; 1834, a large crop; 1835, scarcely an average crop; short in Ireland.

Mr. Hodgson calculates that an *average crop* is one-ninth *short* of the *average consumption*. According to this view, therefore, a crop equal to the consumption, *i. e.* one-ninth above an average, only takes the place of a foreign supply; and would not, therefore, lower the price; if, as has been the case the last three years, there be no foreign corn let out of bond. Except 1834, therefore, there was no large crop, taking the country as a whole, according to the above evidence, the best that the committee could find. If Mr. Hodgson had the best means of forming a judgment, it was only because of the plan he adopted having proved itself, for twenty years, to be a remarkably accurate criterion. The figure derived from this plan, I have shown, speaks a different language from its master. Mr. Hodgson is a very intelligent man, and no doubt his ingenuity would be somewhat taxed to account for wheat falling so low; and this would probably lead him to modify the deduction he formed from his usual course of proceeding. But there is not a tittle of data exhibited by Mr. Hodgson to show that the great fall of price has been caused by abundant crops. The argument concerning abundant crops, is inconsistently used by its advocates. They are the parties who contend that the upland soils are, to a great extent, supplanting the use of the lowland soils. If this be the case,—then the crops cannot have been, (as indeed the evidence proves them not to have been) very abundant; because the dry summers of the three last years, 1833, 1834, 1835, which have been so peculiarly favourable to the wheat of the lowland soils, have not, and never have, the same effect on the upland soils. What is wanted on the upland soils is straw. If you can get straw on the upsoils, you get grain: but dry summers are adverse to the growth of straw. The fact seems to be, as far as the evidence went, that the lowland soils form about three-fourth of the wheat soils; and the good crops on the clays of 1833, 1834, 1835, were counter-balanced in some degree by the lighter crops of the uplands of those years. 1834 was a very large crop of wheat generally, but, owing to the dryness of the spring and summer, much lighter on the uplands than the clays.

Mr. Hodgson, Mr. Sandars, and some other witnesses, especially the speculative ones, in order to prove that low price arose from over supply, then took refuge in the opinion that there had been a larger breadth of wheat sown of late years. This opinion was very agreeable to many members of the committee, and received every encouragement. But how was it supported by data, or by

facts? Mr. Hodgson, even, goes so far as to state his firm conviction that the breadth of wheat sown in the autumn of 1834, was less than the breadth sown in 1833;—and yet with still less sown in 1835, the price was at its lowest in 1835. What means has Mr. Hodgson for knowing the breadth sown? He is asked “You stated, in 1833, that although you had the means of ascertaining in any one year the acreable produce, you had no accurate means of ascertaining the breadth of land sown with wheat; have you any better means of ascertaining it now than then?” “None.” Mr. Sandars’s mode of arguing was something to this effect—the price has been low, the crops have been good, therefore an increased supply *must* have been the cause of the low price. But, if Mr. Hodgson be the first authority on this subject of supply, his opinion is conclusive on this point;—taking *all the elements* of the question into his calculation, he is asked “Then your opinion appears to be, that the home growth of the country is less able to meet the demand of the population now than it was twenty years ago?” “I think so.” “Then an increased produce can hardly be said to be the cause of a diminished price upon a series of years?” “I should think it cannot.” “The supply is less equal to the demand than it was twenty years ago?” “I think it is.”

The only real data the committee had to go upon as to any material difference between the wheat grown at present, and ten years ago, was furnished by a very intelligent witness, Mr. Evan David, from Glamorganshire, who stated that, after being summoned, and before he came up to be examined, he sent out two tithing-men through twenty-six parishes, to compare the quantity grown in 1825 and 1835;—and there was *less grown in the latter period*, by $1\frac{1}{2}$ per cent.

Great stress was laid by some of the committee on the new lands brought into cultivation and sown with wheat. They could adduce no evidence, however, that this new cultivation had extended to more counties than, partially to Cambridgeshire, generally to the fens of Lincolnshire, and the wolds of Yorkshire. They could not shew that even these had been brought into cultivation since the fall in price; while the fact was notorious, that scarcely any inclosures have taken place, comparatively, since 1814; and that an amazing number took place during the high prices, from 1797 to 1814; and that the new lands were most productive when first broken up. And the population returns shew an increase in the number of the people of upwards of 5,000,000 mouths since 1820, which must have required a great increased supply, if they had had the same means to purchase food as before. Add to this, that the distress of the farmer has, according to the evidence both of 1833 and 1836, led him of late years to overcrop, and so render his soil productive. Even Mr. Lefevre allows this, although arguing in favour of over-production having caused low prices;—but he forgets, in ascribing distress to excessive rent, that it sets at nought his case of over-production. “Whenever (says he) rent begins to encroach upon the capital of the tenant, it becomes impossible for him to attempt any improvement on his farm; nor can he employ the labour necessary for its due cultivation; the land, by over-cropping, becomes gradually less productive, and is at last reduced to such a state of exhaustion, that it will scarcely repay the expenses of cultivation without leaving any surplus for rent or profit.” All this is quite true; but, wholly inconsistent with the

argument about over-production. The real fact is, that increased production, from improvements in husbandry, has been counteracted by decreased production, from the source Mr. Lefevre here describes.

Mr. Shaw Lefevre, in his pamphlet, also alludes to a return of the number of quarters of wheat sold in each of the 149 corn-returning markets, as supporting his view that low price is from a superabundant supply. I am satisfied that I am borne out in the assertion, that the committee, from the evidence it received on this subject, *placed no reliance whatever on these returns*. Liverpool returned about 4,000 qrs. as sold in 1825! and 160,000 qrs. as sold in 1835!! How can this be correct? As far as I remember (for I have not the return by me), in a majority of places, at least in two columns out of the three, the sales were less in 1835 than in 1825: the increased quantity is made up by the large towns, chiefly, where the returns have been more strict since the new corn law of 1828 came into operation. But our excellent chairman says, in his pamphlet, that, according to these returns, in 1829, 1830, and 1831, the sales were less by 713,011 qrs. than in 1832, 1833, and 1834; thus showing an increased growth in the latter years. This comparison, unless explained, might mislead the public. Mr. Lefevre believes 1832, 1833, and 1834, to have been great crops; I think they were not more than an average; while 1829, 1830, and 1831, are acknowledged to have been very deficient crops. The comparison only could be fair in years of average production. What are the real facts with respect to the deficient crops, (according to a table which he gives in a subsequent part of his pamphlet)? Why, that in the three years 1829, 1830, 1831, upwards of 3,500,000 qrs. of foreign wheat were imported to meet the scarcity; while comparatively none was imported in 1832, 1833, and 1834. Do these facts prove that less wheat was grown in England, compared with the consumption, before the deficient crops of 1828, 1829, 1830, and 1831, than since? Let any one compare the returns, from the Board of Trade, of foreign wheat entered for home consumption from 1819 to 1827 (inclusive): he will find the annual average 177,575 qrs.; whilst the annual average in the three years 1832, 1833, and 1834, according to the same return, is 157,478 qrs. England, therefore, even according to this test of Mr. Lefevre, *supplied itself quite as well ten years ago as at present; notwithstanding the “late very abundant crops.”*

Thus the attempt to prove that superabundance and an over-supply had been the cause of the great fall in price, most signally failed; and so it appeared, to me, to be felt by the committee; for during the latter part of their sittings, they, for the most part, abandoned these positions, and, as a last resource, betook themselves to the two following, viz:—

1. The distress was confined to the clays, and was owing to a good machine (the uplands) beating a bad machine (the lowlands).

2. That although the agriculturists might have suffered, or be suffering, agriculture had not retrograded.

Now, as to the first,—no evidence whatever was received. Two or three persons, who were not farmers, offered this as a possible solution of the difficulty, why the lowlands were more distressed than the high. They had no data to go on. It was pure assumption. To have proved their point, they should have shown that the uplands could be cultivated

cheaper than the lowlands were before 1790; before the burdens imposed by the war. Can the uplands be cultivated with a profit at 40s. per quarter for wheat? The lowlands could be so cultivated before the war. The good machine, as it is called, therefore, is no better than the bad machine was before the war; not even so good. This argument cannot be sustained without reverting to the true cause of the distress, viz.—the greater expenses of cultivation, existing now, compared with the expenses previous to the war. It is these larger expenses that demand a higher price for profitable cultivation. The low price gentlemen, therefore, always blink the question of the greater expenses. Mr. Evan David, in his evidence, gives a most interesting account (taken from books) of the expenses, item by item, on a large farm in 1790, and 1834; and they are higher in 1834 in the following proportion:—

Expenses of farming higher in 1834 than 1790.	
Labour	62
Household expenses	57
Local taxes	391
	} Per cent.

We want no more evidence than this to prove that it is the burden upon the land, alone, which is oppressing it, and rendering it unprofitable—a burden which it could sustain under higher prices—a burden under which it has been sinking with the price of the last few years. *It is bad prices and heavy expenses, not a bad or good machine, which has distressed the farmer.* Improvements in agriculture are of great advantage to the farmer; he is always the first to reap the benefit from them.

No doubt the source of the delusion respecting the good and bad machine, was the circumstance of the uplands being less distressed than the lowlands. But the advocates of this doctrine found it impossible to prove that the good machines had not been, for the most part, introduced before the fall in price, and that they were not the most productive (as virgin soil) when first broken up. They omitted to ask if the uplands had not had great advantages of late years, not possessed by the lowlands; or rather enjoyed at the expense of the lowlands. The comparative prosperity of the uplands, every one knows who is practically acquainted with the country, has been the high price of wool and sheep,—which it is equally well known was caused by the rot in sheep four or five years ago. Doubtless the upland sheep-breeders have been doing well; they lost no sheep by the rot; and for three or four years after the rot, the lowland farmers either durst not keep sheep stock for fear of rot, or their capital was too much exhausted to buy them. Could the uplands have borne the depression in wheat, except for this accidental price of wool? What does Mr. Bennett, of Woburn, say (the agent of the Duke of Bedford) a very respectable witness, but who evidently made the best of the condition of the farmer? Indeed he is quoted by Mr. Lefevre as an authority. He is asked, in his cross-examination, “Wool and mutton have kept up very well during the last four years?” “They have; where a farmer has not a flock of sheep, I cannot tell how he lives.” The fact is, that under a price for wheat which would not pay on four-fifths of the soils of the kingdom, the uplands lost less because the labour and expenses were so much less heavy. Neither soils have gained by wheat. In 1826, 1827, and 1828, before the rot in sheep took place, and the price of mutton and wool was miserably low, the uplands, with a wheat price of 51s., were the greatest sufferers. And if I were to give an opinion, I would say, of the wheat crops alone in the dry summers of 1833, 1834, and 1835, that they

paid the lowland farmer much better than the upland.

We then come to that extravagant proposition to be put forth in a committee on agricultural distress, viz., that “although the agriculturists have suffered, agriculture has not retrograded.” This question was not frequently put, neither is it necessary for me to say by what parties it was put; the names of the members of the committee are affixed to the questions which they individually asked. No one ever pretended that agriculture, as a science, had gone back. Thank God! no act of Parliament can accomplish the ruin of the human intellect. There is a double excitement to extraordinary exertion,—the hope of reward under high prices, the fear of loss under low. No one denied that individuals, who had some capital left, or who brought fresh capital to the undertaking, had their ingenuity stimulated by the difficulties of the times; and that improvements in agriculture were the result. It was equally evident that some who, at first, in despair, scoured their land, and cultivated worse, subsequently were led, by degrees, to see that the best mode of cultivation was the cheapest. *What the farmers complain of is, that, in despite of the utmost exertion of human ingenuity, and of redoubled industry, to overcome the influence of acts of the legislature, they have been borne down and crushed in the attempt, by hundreds and by thousands.* And then to have the insult added to the injury, that agriculture is flourishing over their graves! The condolence of one school-boy to another, under misfortune, is precisely the same in principle: “It will be all one a hundred years hence.” It is a principle which might be used as an apology for the most blighting despotism which ever ground a people to the earth. Has France retrograded since its first revolution? Imagine Marat or Robespierre consoling their victims with the assurance that, although Paris was weltering in the blood of its best citizens, France would, in the end be the same, or possibly improved. But we need not resort to imagination: history affords us a precedent precisely in point. Tacitus relates, that Tiberius, having caused Germanicus, his nephew, to be poisoned, and when Rome was overwhelmed with grief and despair at the death of that illustrious man, who, by his virtues, had gained the affections of the people, and was expected to succeed to the throne,—Tiberius, that dark and malignant dissembler, anxious to repress the tide of popular grief, and, I suppose, as a comfort to their distress, (of which he himself was the cause,) exclaims, in a speech to the senate, “*Whatever may be the fate of noble families, the commonwealth is immortal.*”

With respect to the pamphlet just published by Mr. Shaw Lefevre, which is virtually the report he laid before us in committee, I must say, that, although no one can entertain a higher respect for Mr. Lefevre than myself, I think the conclusions he has come to, and the recommendations he makes, are so far from being supported by the great body of the evidence, that scarcely any one of them is supported by ten witnesses out of, perhaps, sixty or seventy who were examined; and the major part of his recommendations, not by more than three, four, or five in number, and in a less ratio in point of value. Those who will take the trouble to read the evidence will find it the best, and a most complete, answer to Mr. Lefevre's pamphlet.

I have neither time nor space to touch upon all the propositions in the pamphlet. Some of them I have already incidentally observed upon. Before concluding, I will glance at a few of the remainder; indeed all the important ones. It lays great stress

on the benefit conferred by the Poor Law Amendment Act. The chief evidence we had upon the operation of this act was, that parishes were benefited by it in consequence of its making parish allowance less accessible; the effect of this was to drive the labourers from their parishes to railroads, and the manufacturing districts. If there had not been a more than usual extraneous demand for labour, ready to absorb these emigrants from their parishes, coincident with the coming into operation of the act, much danger would have attended it; and it is still a critical problem to be solved, what turn events might take, if a reverse should, at no distant period, overtake the manufacturing districts. *It must never be forgotten, that the main source of the burden of the poor's rate was the poverty of the farmer, which deprived him of the power of employing labour.* A more remunerating state of prices would have diminished the poor rate equally with the Poor Law Act, and in a more legitimate way, viz., from the increased capacity of the farmer to employ labourers. No doubt there was also an extravagant expenditure of the rate, before the amended act, which it is correcting; but there had been greater economy practised for ten years previous to the Poor Law Amendment Act, than in the ten years before that. Much stress was laid by Sir Robert Peel, in the session of 1835, on the county rates as a cause of distress, and Mr. Lefevre has not forgotten it in his pamphlet. As far as I remember the evidence, we could never make out that the county rate amounted to more than 3d. or 4d. an acre, and as a means of relief it was treated by the witnesses with ridicule.

There has certainly been, at least an ostensible or temporary boon granted to the farming interest, by the remission of the statute duty in the Highway Act of last year. It is lucky that this act passed under the auspices of a gentleman so wedded to Mr. Peel's bill as Mr. Lefevre. Had you or I proposed it, who are for better prices by a slight modification of that bill, we should have been immediately taxed with a breach of public faith; certainly, much more justly so, than for any thing we have ever yet proposed. The debts on the roads are somewhere about £8,000,000. The statute labour virtually formed, I understand, about one-third of the assets of the turnpike trustees. The funds of the roads will no longer suffice both to keep them in repair, and to pay the interest of their debts. The creditors looked to the statute labour, in part, as a security for payment. I have no objection to the statute duty being repealed, but *public faith* required that an equivalent should have been provided from some other fund.

I agree with Mr. Lefevre that the new Tithe Act will ultimately be a great benefit to the agriculture of this country; but that act was wholly independent of the proceedings of our committee. I have the greater confidence in its beneficial operation, from the excellent choice the Government have made of a chief commissioner, in the person of Mr. Blamire, late M.P. for Cumberland.

But, says our worthy chairman, if we could only turn Englishmen into Scotchmen, how prosperous we should be! In other words, Mr. Lefevre attributes the distress of English farmers to their want of skill in the art of farming. What! has English farming gone back the last forty years? Yet, this must be proved before distress can be attributed to bad farming. In no forty years since British agriculture had its origin, have there been greater improvements than within the last forty years. And yet the British farmers were a more thriving race before the

improvements began than they are now. Do I lay this misfortune at the door of the improvements? God forbid! But for these improvements we should have been exterminated, as a race, by the double burdens unjustly laid upon us. I give the Scotch full credit for their share in these improvements, but I give them no more. Mr. Lefevre says, "Read the evidence of the Scotch witnesses, and see to what a much greater extent they turn their attention to the breeding, fattening, and general management of stock than is usually done by the English farmer." The Scotch farmers are a very intelligent body, and in a literary point of view, perhaps, better educated than the generality of English farmers; and they certainly gave a very good account of themselves to the committee; but it is surely no reason why they should have the palm, in the matter of stock, over their English brethren, because curiosity on the part of the committee gathered from the Scotchmen their system, and did not require it of the Englishmen. But can Mr. Lefevre be really serious in asserting that the stock of Scotland is, generally speaking, comparable to English stock? Whatever these witnesses may think,—they never were more mistaken than in the belief (if they entertain it) that Scotland is before England in the breeding and management of stock. Have the examples of Lord Western, in Essex, Mr. Coke, of Norfolk, Mr. Bennet, of Wiltshire, Lord Althorp, in Northamptonshire, Major Bower, Lord Feversham, and Lord Carlisle, in Yorkshire, and Henry Handley, in Lincolnshire, gone for nothing? Where are the Scotch sheep, compared with ours? And, speaking of improvements, the advance in breeding, I believe, has far exceeded that in tillage of late years; and, in this particular, England has the advantage. Nay, more: although I grant that Scotland, generally speaking, some fifteen or twenty years ago, was in advance of us in tillage farming, I am confident that the comparative advance since that period has been much greater in England. It is far easier to copy than to originate. Yet in spite of these honest exertions on the part of the English farmer, exertions which, but for some malign counteracting cause, must have greatly enriched him, he has been wasting away!

The real reasons why the Scotch farmer is at this moment better off than the English, have not been stated by Mr. Lefevre. In addition to having no tithe, and no poor-rate, I understand that his labourers' wages are very little above half what we pay in Yorkshire: on 500 acres of tillage—this item alone would be about 200l. a-year. Would any one wish to lower the wages of the English labourer (down to that of the Scotch)? Scotland has the advantage of 1l. notes, which England has not. Scotland has had all the advantage of the loss of sheep England sustained from the rot. They have not got rich so much from the management of their stock, as from their bad sheep stock finding a welcome in the English markets, after our better stock had fallen victims to the rot, from which theirs escaped. The Scotch witnesses came up to London to be examined, in the heyday of that absorbing call in the London market for fat stock, occasioned by the failure last year of turnips in the south. Well might they be happy when a moor jock sold for as much as a calf; and a fat Highlander for as much as a short-horn, in ordinary years! But how could they have taken advantage of this temporary demand, except for the rapid extension of steam navigation since 1820;—the period from whence is dated the great decline in the condition of the British agriculturist? Steam navigation has opened London to the east of Scotland, and Liverpool to the west. But for these ad-

vantages, what would have been the condition of the Scotch farmers? Even with them, what has it been for the last 15 years? I asked almost every one of them this question; "Taking the farmers as a body in your district, are they as wealthy a body of men as they were 15 years ago?" "No, they are not," was, I think, the universal reply. *What, then! has canny Scotland, too, been labouring for fifteen years, with all its thrift, and subsoil ploughs, and other means and appliances to boot, to be no richer at the end than at the beginning?* Has this an example in history? The legislature has done every thing to cause distress; the farmer has performed prodigies to overcome it.

Mr. Lefevre, I think, then proceeds to a longish disquisition on the malt duty. On this subject you are much more at home than I am; I leave him on this point, therefore, in your hands, in the hope that you will be more merciful, in this instance, than you were to the Commissioners who sent out the fifteenth excise report. I will only observe on the malt tax, that the most we learnt on it in committee was, that the witnesses summoned at the request of Lord Chandos were all very anxious for its repeal; but when asked how the revenue was to be supplied, answered, they thought the committee the best judges of that. Mr. Lefevre imagines we could not grow enough barley, if the duty were repealed. It may be so: but the evidence does not tell this; on the contrary, I recollect your putting the question to every witness, almost, examined on this point; and they answered, to the best of their belief, in the affirmative, that we could grow enough barley for the consumption, if the duty were repealed. I sincerely trust that Mr. Rudkin's very ingenious invention, which we saw together, may assist us to the repeal. I attended a deputation, of which I had the honour to be spokesman, to the Chancellor of the Exchequer, just before I left town in July, and he gave us the fullest assurance that it should receive the fairest trial at the public expense; and that Dr. Birkbeck should be allowed to be present during the trial, as well as Mr. Rudkin, to see that nothing was done to interfere with the complete developement of the uses of the instrument. I state this because I think the Chancellor of the Exchequer has not been fairly used in this matter.

Mr. Lefevre then devotes a number of pages to the corn laws. It is not necessary to say more than two words on this question, on this occasion. An attempt was made in the committee to extract evidence in favour of a fixed duty, which altogether failed. The same attempt was made in the committee of 1833, with like success. The true history of our corn laws is given in a late report of a committee of Congress, on the banking question, in the United States. It was an attempt, says the report, to sustain, by a restriction on corn, the prices which necessarily fell by the restriction on money. To what extent it has succeeded, the prices of corn for the last 15 years sufficiently demonstrate.

The last allusion in the pamphlet is to the currency. But it does not say how much of the evidence bore upon it. It is passed over in the general terms, this question has been usually treated with in Parliamentary documents.—There are no extracts of evidence, as in the other cases, to support the chairman in his views. This would have been a difficult task where the evidence must have been, at least, *ten to one* against him. "The opinions of the currency witnesses were met by contradictory testimony," says Mr. Lefevre.—Yes: as to the *policy* of a change in the present day; but not as to the *fact* of Mr. Peel's bill having caused the distress. Every one

knows that the complaint of the farmer has been low prices. The contradictory testimony referred to is Lord Radnor and Lord Ashburton. Both these noble Lords were incredulous of the distress. They both were opposed to a change in the currency at the present time. They were not requested to attend to say what *now* should be done; but to depose to the effects of what had been done.

Lord Radnor is asked what effect he conceives Mr. Peel's bill produced on prices;—he answers without disguise,—*it caused prices to fall one-half:—i. e. it made wheat fall from 80s. to 40s., which was the price in 1822.*

Lord Ashburton's recollection is recalled to a speech he made in the House of Commons in 1821, when he said "After all the idle stories about over-production, and under-consumption, and such like trash had been swept away, we should come to 'the' question which had really to do with the distress, viz., the change in the currency." This was in 1821. What was the distress in 1820, 1821, 1822? Low prices:—wheat in October, 1822, reached 38s. a quarter. *Why are we to refer 38s. a quarter in 1835 to over-production, and not in 1822? when we have about 5,000,000 more mouths to fill, too, in 1835.*

What has happened with respect to the currency since the peace? Cash payments were prepared for as early as 1814. The withdrawal of the currency, in consequence, at all events, materially assisted to produce the distress of 1815, 1816, if we are to judge of the effect of increasing the circulation in 1817, 1818; when, according to the King's speeches, prosperity was restored, in the face of a bad harvest, and all prices were raised, manufacturing as well as agricultural. A most important official memorandum, delivered in to the committee, shows the transactions of the government with respect to the currency between 1815 and 1819.

Mr. Peel's bill passed in 1819:—it was followed, and necessarily followed, by a contraction of currency. In its train came the low prices of 1820, 1821, and 1822. Lord Londonderry's nerves were unequal to the distress flowing from this, and he let out the 11 notes; but he forgot to alter the standard of value. The prices of 1822 were the prices of the gold standard of 3*l* 17s 10½*d* per oz.: of 1819. The 11 notes and a larger currency raised prices in 1823, 1824, and 1825. Then came the struggle with the standard. High prices (convertible into gold at 3*l* 17s 10½*d*) stopped the exports; high prices encouraged imports: gold was chosen by the importers, in payment, because gold was fixed at the price of 3*l* 17s 10½*d*; while all other prices were high. They did, as every body else would, if they could; they sold dear, and they bought cheap. The bank was drained of its gold. It had nothing left to pay its notes in; and then, and on that account, came the panic of 1825. This is shown in the evidence. And it is also shown that if the gold standard had been fixed at a higher nominal price than 3*l* 17s 10½*d*, the ounce, say 4*l* 6s or 4*l* 10s, we should have kept the prices of 1825 permanently, without diminishing our exports. We should have maintained the prosperity of 1824. And who would have objected to prosperity? Who talked of public faith then?

Prices fell generally, after 1825; the panic having caused, after its immediate effects were passed, a great contraction of the currency. The 11 notes expired in 1829. The four wet harvests of 1828, 1829, 1830, and 1831, kept up the price of grain; the rot in sheep kept up the price of wool and stock. After 1831, corn began to fall; till about Christmas, 1833, wheat was as low as 34s a quarter: lower by 6s or 8s, perhaps, than it would have been but for the

good harvest of 1834. The reason why wool did not fall as rapidly as corn, is, that our long wool is peculiar to ourselves. We got corn from abroad, but the land remained, and if the next harvest was good, we supplied ourselves as usual; whereas the rot, it is calculated, swept of 3,000,000 of sheep, which have not yet been replaced. The dry summers of 1833 and 1834 were very adverse to barley and oats, and kept up their price—barley, especially, which was also made more valuable by 4s or 6s per qr., in consequence of the beer duty being taken off. Barley, under the same circumstances, would have been above 50s a qr. twenty years ago. This brings us down to the present time.

But what was going on during the sitting of the committee? An apparently growing prosperity in the manufacturing districts, which seemed at last, about to reach and to alleviate the distress in agriculture. Some effect it did produce, no doubt, but not near so much as was supposed. Wheat began to rise, and reached 50s the average. The sanguine members of the committee offered to bet that wheat would rise to 60s before the committee rose. But the wheat price vacillated. It was evident to a close observer, that wheat was rising owing to an apprehended scarcity, and that each market was a weather market. Mr. Hodgson, I think, stated that there was a prospect of less wheat this harvest, compared with the consumption, than we had had for thirty years. And yet, with all this apprehension before us, wheat, on the average, is still less than 50s a qr. Were it not for this apprehension, it would be less than 40s; and with this apprehension, twenty years ago, the price of wheat would have been 90s a quarter.

According to the evidence before the committee (and it is now, I believe, the general notion,) the manufacturing prosperity, and the rage for speculations, joint stock companies, &c., are attributable to the increased currency issued by the joint stock banks, which have doubled their circulation in about two years. These issues have produced the same effects as were produced in 1825—so far as they have gone. The joint stock banks have confined their large operations mainly to the manufacturing districts. The 11 notes caused a more general increase in 1823, 1824, and 1825, thus causing agricultural as well as manufacturing produce to rise. The rise lately in manufactures was not a sound but a speculative rise. *This is proved by the rise having commenced with the raw material of manufactures. In a sound and permanent state of things, it is the increased demand for the manufactured article that creates an increased demand for the raw material. The manufacture ought to rise first.* The cause of the rise has been, that speculators have taken advantage of the disposition of the joint stock banks to accommodate more freely.

However, the effect produced upon the standard are the same. Prices have risen; gold is leaving the country; the bank is alarmed; Professor M^r Culloch (at least so it is stated) is writing articles in the *Courier*. The Chancellor of the Exchequer has been called from Ireland. But the bank has not the same power over the circulation it had in 1825, or we should have precisely the same results, in a short time, as we had in 1825. The joint stock banks are a more powerful body, taken individually, than the private banks; they are not so anenable to a run; there are thousands in their neighbourhood interested in their safety. *The legal tender clause is in operation; they have not now to pay in gold; and a joint stock bank note may be considered as good as a bank of England note.* There will not, therefore, be such an utter and sud-

den stagnation as in 1825. But, if prices continue to rise, the gold must go; the bank has still great power, and it must exercise it in self defence, unless government help them by changing the standard. The evidence before us was clearly and universally in favour of a change from a gold to a silver standard, or a conjoint standard of silver and gold. We cannot have what is called good prices with our present gold standard, which is a harder standard for the debtor and the productive classes than the ancient one which existed previous to 1797. The standard generally recommended to the committee was silver, at 5s 6d the ounce; which, taking into consideration the repeal of the laws against melting and exporting the coin, is but little, if at all, a more relaxed standard than the ancient standard to which we *professed* to return in 1819.

But it is idle to say more of currency. Every other country knows the bungle we committed in 1819. America, France, Russia, all know it; and the knowledge has helped them not a little in their foreign policy. Nineteen out of twenty of the very men who passed the measure would rather cut their right hands off than pass it again; and yet, though the cause of the distress, it is to be religiously maintained. Neither are *we*, who differ from this opinion, for returning to such a measure as we should have thought just in 1819. We wish (I believe we both do) for silver at 5s 6d, and 11 notes properly secured. This would not give more, I imagine, permanently, than a wheat price of from 50s to 60s per quarter. Many who oppose us would rejoice at a price like this, and yet will not pursue the means to obtain it. They desire the end, but refuse to adopt the means. And why? because it would arise from a depreciation of the currency; and a depreciation of the currency is unjust to the public creditor. But it can only be unjust as it raises prices; and this *they* want to do. Their exultation is excessive at the manufacturing prosperity, which, in fact, is a rise of prices consequent on the increased issues of the joint stock banks; *forgetting that this is a virtual depreciation of the currency—only a ten times worse depreciation than that we propose, because it is an insecure one; whilst the one we propose, is totally free from danger.*

All this, however, is in the evidence. *And why did we not report it? Or why did we not propose an amended report?* These are questions which all the country has been asking—questions which I will honestly and truly answer. I always expected an adverse report; *i. e., a report founded on the pre-conceived opinions of the committee, rather than on the evidence actually given.* What I claimed was a full opportunity of going fairly into the whole question of the causes of agricultural distress—an inquiry which had always been resisted before. I, for one, took advantage of this opportunity. But how was the committee formed? I could have made the report, in substance, which it would have agreed to, before we began to sit, from my knowledge of the previous opinions of the members. The government (they only did what all other governments did before them) selected the committee. The opinions of its members were well known. All but two or three (out of above thirty members) were adverse to the currency question. Three currency men were subsequently added by the House. How could we expect a report which favoured the idea that the currency was at the bottom of the distress? I never placed the slightest hope in a report. I said it from the beginning. "All we can do for you (I said to a body of farmers) is to get the truth out in evidence." The truth is now out in evidence, and I am confident

that an unbiassed foreigner, who had no prejudices to mislead him, could, after reading the whole of the evidence, come but to one conclusion, viz., that the long-continued distress of agriculture has been caused by the change of the currency. The whole of the evidence will soon be before the country;—I refer to it with the utmost confidence for a justification of the opinions I entertain on the subject of agricultural distress.

“Why, then, not move an amended report?” it has been asked. You remember the effect produced in the committee by the production of Mr. Lefevre’s report. No one could agree to it. The committee adjourned for a week, to print the draft report which had been read to them. I immediately prepared to draw up an amended report. In the mean time it was discovered, by the intercommunications of its members, that a majority of the committee would agree to throw out the chairman’s report, on the understanding that there was to be no report. We at once gave up the idea of an amended report; because we were very certain that no report, *we would carry*, would embody *our* views of what the evidence contained; and *we decided* (and in my opinion the farmers of England will sanction the decision) that no report at all was preferable to one which, in our opinion, put a strained construction upon the evidence. The evidence itself could not mislead. It would tell the truth as far as it went, and therefore we referred the evidence alone to the judgment and consideration of the country, without a report, which, in our opinion, would only divert it from the cause of the trouble.

If we had had a committee of nine members, four of one opinion, and four of another, and a chairman whose opinion was neutral, it would have been our imperative duty to have reported. It is only by an explanation of the circumstances, that we can be exculpated for not reporting. But these circumstances, according to my humble judgment, entirely exculpate us. The very discussion of the report in the committee would have been useful, if we had had an audience whose minds were not made up. The *specious generalities* which frequently prevail in the House itself would have had to stand the test of close and accurate sifting. If the public had been admitted to the committee-room, a discussion would have been most useful; but circumstanced as we were, it appears to me we had no alternative but to do as we did. It was a heavy responsibility which was imposed upon us. It was a long and difficult task we had to perform; and if we failed in our duty, it was from error of judgment, not of intention. Much information has been extracted. The farmers will find the cause of their distress in the evidence. It is their duty to study it; and if their distress continue, they will be no longer at a loss for a remedy.

In conclusion, the evidence we had before us, from first to last, convinced me more than ever, that it was an Act of Parliament (Mr. Peel’s bill of 1819) that has produced fifteen years of agricultural distress. And I have always contended that, to remedy one Act of Parliament, another Act of Parliament was required. Mr. Lefevre, however, thinks differently; he says, “It is only to be regretted that the farmers have been taught to look to Parliament for that relief which can only be obtained by a reliance on their own resources and by an improved cultivation.” Does Mr. Lefevre really mean to say that the distress of the farmer has been brought about by greater ignorance of his art, and greater negligence of his duty in the last fifteen years, than he previously displayed? If it had, *prices would have been higher from*

less being produced. Will Mr. Lefevre stake his reputation, as an intelligent farmer, on the opinion that the distress of 1822 was caused by the farmers’ negligence? He knows, as a farmer—he must know it—that the farmer has had to work double tides for a bare livelihood. Instead of paying *less* attention to his business, he has paid *double attention*.

What is *really* to be regretted is, that Parliament should have been ignorant of the cause of the fall in price at the end of the war; and that it should have deluded the country with the idea that a corn law would support the prices which a paper currency had created, when that paper was gone. It is *still more to be regretted* that Parliament, when it *did* become acquainted with the effects of Mr. Peel’s bill on prices, should have *gone on* deluding the country with a notion that *natural causes*, and not an Act of Parliament, has caused their distress. The low prices of agricultural produce are the result (except in as much as season may have caused a deficiency,) of the same Act of Parliament which produced the low prices of 1820, 1821, and 1822. Adverse crops and harvests (excluding the money change of 1823, 1824, 1825) have made prices appear better than they really were. The farmers, as a body, have not profited from the prices which have resulted from scarcity. A good harvest and plenty are a blessing to them as well as to the rest of the community.

The late rise in wheat has given no relief to the majority of farmers. Their wheat was gone. And if wheat be 60s or more on the average this next year, I do not think it will repay the farmer for the deficiency in his crop. I know the argument that is now, not unsuccessfully used, that things are looking better—that there is, even in the agricultural districts, an aspect of improvement. I do not deny it; I rejoice, from the bottom of my heart, I rejoice to see it. But I have no confidence in its permanence. Why do farmers wear a more cheerful countenance? Why are their honest greetings more frequent in the market place? Because there is an appearance of better prices; and, therefore, (for it all hangs on this thread) a promise of better days. But, why do I see insecurity in the present appearances? I answer, if the agriculturists are to receive benefit from the same source from which the manufacturers have derived it; how can I believe in its insecurity, when I see the feverish and depressed state of the money market, which is daily reported? Whence this fever and depression in the money market, but from the steps which the Bank of England has, in its alarm, felt itself compelled to take? The object of the late measures of the bank (and I defy contradiction) has been to diminish the amount of circulating money. They feared they would shortly be drained of all their gold. This pressure on the bank was foretold months ago, by those who hold the opinions which we entertain; as the panic of 1825 was also predicted. *Is any further proof required that the manufacturer’s prosperity proceeds from an increased issue of money, than the gold going, and the anxiety of the Bank to diminish the amount of currency?* Without the alteration of the standard I have before alluded to, I cannot be secure of permanent prosperity based on an increased issue of paper.

If the higher prices of agricultural produce have been caused by deficient supply of such produce, then, although there may be partial gainers by such deficiency, prices must fall when the deficiency is supplied. There is scarcely one article of agricultural produce that is high, the price of which is not attributable to scarcity, or the apprehension of scarcity. The evidence taken before us proves this point

over and over again. High price from scarcity, I repeat, is no benefit to the farmers as a body.

"Well, but, after all, things will wear round!" This has always been the text and the watchword of the enemies of the farmer.—The meaning of this expression divested of all its mystery is this. Parliament committed a fatal error in 1819; it was the cause of the fall in prices, and the fall in prices produced the distress. Parliament was too proud to acknowledge its error. Both Whigs and Tories were parties to that destructive measure. The Whigs and Tories have governed the country; how then, could relief be obtained from the source from whence the distress originated? The governments of the last twenty years have tampered with the currency backwards and forwards; they have vacillated, and juggled, and been reduced to their last shifts, with respect to this question; the country and all productive industry has groaned under it; no other country, as M. Say has well said, could have undergone the blighting influence of that measure; and the public has been deluded, and the sufferers beguiled, with the notion that "things would wear round." The parties who were implicated in this measure, trusted to the fertility of human invention, and to the buoyant energies of the British character, and the British soil, to bear the farmers through the struggle. Doubtless the evil has been partially stemmed by the improvements in husbandry, and superior breeding of stock. Superior skill makes a less price necessary; and the trust of the parties I have referred to, has been that the whole effect of that fatal measure might be counteracted by improvements, before the nation became fully aware of the gigantic fraud that had been committed upon it, and roused itself in indignation to compel some disgorgement of the plunder. Amid all the sacrifices that have been made, the relentless ruin that has laid waste the productive classes,—when clouds overhung the firmament, and no gleam of light or of hope was to be seen, the same dread comfort was administered by these parties—"things will wear round!" The angel, Mercy, knocked at their gate in vain.

No thanks to them! new manures have helped one class of farmers: the allotment system has alleviated the condition of the agricultural labourer, when the farmer could no longer employ him. Railroads, steam navigation, joint stock banks, and other efforts of human enterprise, have all tended to parry the full weight of this deadly blow. Parliament has passed poor law amendment acts, tithes commutation, beer duty repeal acts, and reduced forty millions of taxation, while the exports have doubled; but all has been insufficient. More must still be done or we sink under the load. *The very magnitude of the measures* which have been indirectly passed, and the improvements which have taken place, without removing, although they have palliated the effects of the act of 1819, are but so many proofs of the gigantic enormity of that measure. And it should never be forgotten, that if the bill of 1819 had not passed, these improvements would have been so many additions to property in the land; instead of being, as they have been, only a means of meeting the losses upon it.

Things will certainly "wear round," after a man has been defrauded of half his land, if, by working double tides, he supplies the deficiency. But it is a new morality to advocate such a system. It is what the older moralists used to designate by the term "robbery." The landlord has been robbed of the benefit of the latent properties of the soil, to which he had a just claim; the tenant has been robbed of his capital and skill.

If any prosperity, therefore, have hitherto attended

any portion of the farmers; no thanks to those whose only assistance has been the cold and comfortless assurance, that things "would wear round;" of those whose trust has been that the towering energies of their devoted countrymen would master every difficulty which they had to encounter; by which means the cause of their distresses might be for ever hid from their eyes, and the perpetrators of it escape the righteous indignation of an injured people; *while personal consistency might be preserved.* On this principle they have proceeded with remorseless confidence; and although the pestilence has struck down thousands on thousands in its course, still, as their victims fell, their cry has been that of the German general, "I have used these men, send me some more." And all this has been executed under the mask of public faith! A public faith which has defrauded the British public and the industrious classes of full 500,000,000*l* sterling!

Concealment, however, is now out of the question, after the evidence which was laid before us. Truth will always in the end prevail. Whether the knowledge of the truth will lead the public to demand a change of measures, it is for the public to judge. At present, probably, the farmers will confide in appearances. It is natural they should. I most earnestly hope they may not be disappointed.

I am not ignorant of the insinuations that have been made against those who are said to consider themselves as peculiarly "the farmers' friends," and that they endeavour to raise a fictitious popularity on the basis of the distress. For myself (and I will answer for you also) God is my witness, that nothing on earth of a public nature would rejoice me more than to see the fullest restoration to prosperity, although not one single principle which I have advocated were adopted to obtain it. I was too alive to the blessings of plenty, and an easy competence, and the just returns to industry, with all their bountiful consequences, when they did exist,—not to think their restoration *paramount to all other public considerations.* What were their effects? A happy, grateful, contented peasantry; a joyous, open-hearted, and open-handed yeomanry; a liberal and hospitable gentry; each, in their place and degree, and through all the ramifications of society to which their influence extended, dispensing peace and exercising good will to all around them; and forming, in the close identity of interest which they exhibited, and in the high honour and devotion of character which they displayed, the noblest and strongest bulwark against external invasion, or internal oppression, that ever existed in any age or country. Witnessing a state of things which threatened to dissolve these happy bonds, and perceiving that the mutual confidence which used to be the pride and boast of these classes was already on the wane; I thought it my duty, however humble an individual, to endeavour to assist in the rescue of the sufferers from distress, and to avert from the country itself the incalculable perils which must issue from its continuance. To me it appeared that the country generally, was ignorant of the source whence the distress proceeded. Our Governments, under the control of the London money ascendancy, *which had gained so much by the fall of prices,* always attempted to gloss over the mischief, and to disguise its causes by preventing inquiry. We have, together, laboured for the fullest investigation; and thanks to his Majesty's present advisers, we have now had a full and fair enquiry. Its results will, shortly, be before the public in the shape of the evidence we received, and the documents laid before us. The public must now do its own work. If the farmers remain distressed they will read the evidence, and will there

find the origin of their fifteen years of misery and depression. This is all we can do. Our part in the business is mainly fulfilled. So long as the truth was wilfully concealed, it was our bounden duty to unmask it; that done, the task was transferred to other hands. The country alone can command redress. I will only add, as my last word, that the greatest public boon which could be bestowed on me, would be never to hear the word distress again.

Yours, my dear Sir,
Very truly,
E. S. CAYLEY.

THE PROCESS OF RUMINATION OR CHEWING THE CUD IN CATTLE, EXPLAINED UPON THE EXPERIMENTS OF M. FLOURENS.

(From the Quarterly Journal of Agriculture.)

If a farmer were to maintain literally the vulgar opinion that the sun rises from behind the eastern mountains, and sets in the western sea, it might not lead *him* into any practical inconvenience; but unless this opinion had been corrected by astronomers our ships could never have been steered, except at random, through the trackless ocean—though the establishment of the fact of the sun being in some degree at rest, while the earth turns round somewhat like a grass-roller, was not, upon its discovery, anticipated to be of so great practical importance as it has proved to navigation. In the same way may the correction of other popular errors lead to unexpected results of interest and value; while, independent of this, it can never be unimportant to establish truth on a sure basis. It is on this general principle that it is here proposed to correct the mistaken notions which have hitherto prevailed respecting the process of rumination or chewing the cud in cows, sheep, goats, and deer.

In proportion as knowledge is better than ignorance, it must be important for the farmer to have a correct notion of the process of digestion in his live-stock, inasmuch as it may render him better able to bring them into and keep them in good condition, as well as to prevent disorders, and to cure them when they occur. Accordingly, when we consider the singular modifying influence of chewing the cud in the process of digestion, and still more the influence of digestion itself on health and disease, we must admit that the examination of the process is highly interesting, though it is not a little strange that the inquiries of the most celebrated physiologists have often led to doubtful and contradictory results, a fact which can only be accounted for from the complication of the process, and the difficulty of tracing its several steps.

M. Daubenton, the distinguished coadjutor of Buffon, says, that "it has been in vain attempted to explain the mechanism of this singular operation;"* and John Hunter, the greatest physiologist of modern times, expressly says, "In those animals whose stomach consists of several cavities, the precise place where digestion is carried on has not been ascertained."†

M. Bourgelat, also, an eminent modern French writer, says of the authors who have preceded him upon rumination, that "they appear to have been

afraid to grapple with the difficulties connected with the discovery of the mechanism, . . . and that the rapid glance which they have thrown at the object seems a tacit confession of its being to them inaccessible." Yet M. Bourgelat himself has made little or no progress in the discovery, and tells us that "he only proposes his ideas upon it as doubts or as simple conjectures."*

Dr. Bostock, in 1828, speaking of the organs of digestion in ruminating animals, says, "there is some doubt as to the effect which is produced by the different parts of this complicated apparatus, and as to the use which they serve in the economy of the animal."‡

M. Flourens, again, writing so late as September 1832, says, that up to the present day there has been nothing better than doubt and conjecture respecting the mechanism of rumination; and it was this which incited him to make the very satisfactory, though it must be confessed, very cruel experiments, that appear to clear up the whole mystery. Previous, however, to detailing these important experiments, it may not be uninteresting to take a brief retrospect of the statements of the older writers, and of the structure of the organs.

Aristotle and Galen, under the notion that rumination was peculiar to horned animals, were somewhat puzzled to account for the camel and dromedary ruminating; and St. Jerome was curious enough, when commenting on the Levitic law prohibiting camel's flesh, to ascertain the fact. "I went out," he says, "in the evening, and saw camels roll the food previously swallowed in their mouths, and bring up again what had passed for nourishment."‡ Without going more minutely into the subject, they all seem to agree in the notion that rumination is indispensable, in consequence of hard or prickly herbage being used as food; yet it is not a little singular that such writers as Galen,§ Albertus Magnus,|| and Aldrovand, should not have adverted to the well-known instance of the ass, which feeds on prickly and woody plants without ruminating. One plain fact will easily overturn the most ingenious theory.

There is some doubts respecting the derivation of the word rumination, some, with Isidore,¶ referring it to a bulging in the throat termed *rumen*, and others, with Nonnius Marcellus,** applying the term *rumen* to the paunch, or first stomach; but whatever may be the origin of the term, the process, so far as it can be externally observed, consists, as St. Jerome describes in the camel, in bringing up into the mouth the food previously swallowed, remasticating it, and again swallowing it. The interior mechanism by which this process is performed can only be investigated and understood by an examination of the organs. Except in rare individual instances, as in man, and in the kangaroo, the process of rumination is connected with a complicated stomach, very different from the simple stomachs of carnivorous or frugivorous animals, for instead of one cavity, there are at least four communicating cavities or chambers, each having a peculiar structure, and no doubt a corresponding peculiarity of function.

* *Elemens de l'Art Veterin*, t. ii.

† *Element Syst. of Physiology*, 2d ed. ii. 415.

‡ *Apud Aldrovand de Quodr. Bis*. 905.

§ *Admin. Anat.* vi. 3.

|| *De Animal lib.* iii.

¶ *Isid. Hispalendis, Original*, xii. 1.

** *Apud. Aldrov. ut Supra*.

* *Mem. Acad. des Sciences* for 1768.

† *Observations on the Animal Economy*, p. 212.

In the cow, the sheep, and other ruminating animals, the first cavity or chamber of the four-parted stomach, termed the paunch or maw (*Intestines*), is by far the largest of the four, is somewhat divided by ridges into several compartments or paunches, and is lined with a rough membrane, studded with small flat projections, two circumstances very important to be recollected. It is situated towards the left side, and serves by its heat and somewhat scanty moisture to prepare the herbage for farther change. It is inferred to have a rotatory motion, from the rounded masses of hair called bezoar stones, frequently found in it, arising from the conglutinated hairs licked off from time to time by the animal when cleaning itself, and said, without proof, to be miraculously medicinal. It is of a very extensible texture, and is very frequently much stretched by over gorging it with food, its capaciousness, indeed, appearing to depend in some measure on the sort of food which is given to the animal. M. Daubenton says, that in a calf which has never eaten grass, though not very young, the paunch is proportionably much less than in the full grown ox, and infers that its usual great size is caused by the great mass of herbage daily devoured, and the fermentation which this always more or less undergoes. To prove this view of the matter, he tried the following experiment:—He fed two lambs of equal ages, and weaned at the same time, the one with bread, and the other with grass. At the end of twelve months he killed them, and found that the paunch of the one fed with bread was very remarkably smaller than that of the other. Connected with the extensible structure of the paunch is its comparative want of sensibility, in consequence of which the animals go on eating without being satiated, till it is frequently over crammed, as graminivorous birds will likewise do, from their crop or craw being very similar to the paunch of ruminating animals. Now, it is obvious, that when the paunch has thus been over crammed with succulent herbage, such as green clover, it will speedily ferment, in consequence of being subjected to animal heat, and excluded from the air, producing an extrication of more gas than can escape by the gullet. In such circumstances the animal is said to be blown or hoven, and fatal consequences may and do often ensue, from the gas increasing till the sides of the paunch are burst through, and its contents discharged among the intestines. But even when this does not take place, the distension caused by the gas impedes or suspends the process of digestion, by preventing rumination, which, as will presently be made appear, it must do.

The second cavity or chamber, termed the king's-hood or bonnet (*reticulum*), is situated on the right side, on the same level with the paunch, but hung upon it as a side pouch, or parallel sheath. It is very much smaller than the paunch, is lined with a rough wrinkled membrane continuous with that which lines the paunch, and the whole inner surface presents a net-like appearance, from a sort of ridged projections in polygonal meshes, or shallow cells, similar to a honeycomb. The functions of this cavity have given rise to the most contradictory opinions among the best physiological writers, as we shall afterwards see.

The third cavity or chamber, termed the maniples (*omasum*), is the smallest of the four, and of a more complicated structure. The English name of maniples, has been given from this structure, the inner surface rising up in many folds, one above the other, amounting from about forty in the

sheep to about a hundred in the ox, forming about half those numbers of partitions, and all covered with a continuation of the rough membrane that lines the two first cavities. Some of these folds project farther than others, there being first two long ones on each side, within these two shorter, then two longer, and so on throughout the chamber. The smallest of these folds, lying between the opening from the second chamber or king's-hood, are puckered so as to act as a valve between the third chamber and the fourth.

The fourth and last cavity or chamber termed the red or rennet bag (*abomasum*), and by some the digestive stomach, is of a larger size than the third, but less than the first, being about two feet and a half long in the ox, is of an irregular conical form, and communicates at its base or broadest part with the third by means of a valvular orifice, rendering regurgitation or vomiting impossible. The inner surface is furnished with a number of simple wrinkles or irregular folds, more or less extended, eighteen in number in the ox, beginning at the upper and disappearing before they reach the lower end. This is also studded with projections, which take a rather serpentine or winding direction. The rough membrane which lines the three first cavities does not extend into the fourth, which is lined with a soft mucous membrane, similar to that of the human stomach, and having the property of curdling milk, hence the fourth stomach of the calf is used.

So much for the four chambers or four stomachs as they are sometimes considered; but we would ill understand the process of rumination, were we not to examine minutely the manner in which they communicate with the gullet, or with each other.

The meat pipe or gullet (*oesophagus*), is an extensible membranous tube, much more complicated in ruminating quadrupeds than in man, the muscles which surround it being strong, and consisting of two rows of muscular fibres, crossing each other, and running spirally in opposite directions. The contractions of these muscles force the morsel of food begun to be swallowed onwards into the inlet (*cardia*) of the stomach so powerfully, that the process once commenced cannot be stopped, even by the will of the animal. The gullet enters the stomach of ruminating animals just where the three first chambers approach each other, discharging itself, as M. Flourens remarks, almost equally into the two first chambers.

We request particular attention to another part of those digestive organs which, being indispensable to rumination, may be termed the cud-duct (*ductus ruminans*.) This is sometimes a groove and sometimes a tube, according to its action, and runs from the termination of the gullet to the third chamber with the first chamber on the left, and the second chamber on the right of it, discharging itself, according to M. Flourens, almost equally into the second and third chambers. This cud-duct has thick prominent margins, which can, as remarked by Blumenbach, be brought to meet so as to form a complete canal, and thus constitute a continuation of the gullet across the second into the third stomach. It was ascertained, as we shall hereafter see, by M. Flourens, that the cud-duct, contrary to the assertion of Blumenbach, remains always open, even when the gullet inlet (*cardia*) of the first chamber is closed. "All these parts," says M. Flourens, "the gullet, the cud-duct, the first, the second, and the third stomachs, not only communicate with each other, but they all communicate by a

common point, the point where the gullet terminates, where the cud-duct commences, and toward which the three stomachs open or end."

Now, in whatever way we look at this anatomical structure and mechanism of the parts, we cannot determine many questions which arise as to their operations and functions. For example, as the ruminating animal chews its food and swallows it twice, it may be asked, into which of the three chambers it passes at the first or at the second swallowing, since that the gullet, either by its inlet (*cardia*,) or through the cud-duct, communicates with each of the three? According to Duverney,* M. Perrault,† Blumenbach,‡ and Bostock,§ the food, when first swallowed, goes exclusively into the first chamber; while according to Daubenton,|| Camper,¶ and others, it goes equally into the first and second chambers. According to Haller,** the food, when swallowed the second time, is returned into the first chamber; while according to Duverney, Chabert,†† and Toggia,‡‡ it goes into the second chamber; and according to Daubenton, Camper, Blumenbach, and Bostock, it goes exclusively into the third chamber. Again, it may be asked, from which of the chambers is the food first swallowed passed back to the mouth to be remasticated? Duverney says from the first chamber; Daubenton, Blumenbach, and Bostock, say from the second chamber; and Perrault says from the cud-duct. These questions then, as well as the manner in which the first swallowed food is brought up into the mouth to be remasticated, were all doubtful and undetermined previous to the experimental investigations of M. Flourens, of which we shall now give a detailed account.

In order to determine the first question, as to the particular chamber or chambers into which the food is discharged when first swallowed previous to rumination, M. Flourens caused a sheep to eat a quantity of fresh lucern, and opened it immediately afterwards before it had time to ruminate. He found the greater portion of this herbage, easily recognisable by the leaves, almost unbroken in the paunch or first chamber, and also another smaller portion no less distinguishable by its equally entire leaves in the king's-hood, or second chamber. Neither the third nor fourth chambers contained any portion of the lucern. He repeated this experiment a great number of times with herbage of every description and uniformly with the same result, of the greater portion of the non-ruminated food being found in the paunch, a smaller portion in the king's-hood, in both cases equally unchanged, and none at all in the third and fourth chambers. M. Daubenton, therefore, must have been deceived by some effects of a previous rumination, when he says, "I remarked in the ox, as the aliment (hay) was passing into that part which forms the second stomach, that it was reduced to a kind of green paste resembling boiled spinach." Blumenbach is equally mistaken in saying that the food goes out of the

reservoir of the paunch in small portions into the second stomach.

It being necessary to determine whether the same results would follow with other species of food besides the herbage, M. Flourens caused a sheep to eat oats, and opened it immediately before it had time to ruminate. He found the greater portion of the grain unbroken in the paunch, and a smaller portion in the king's-hood equally unbroken; while the third and fourth chambers did not contain a single grain. He repeated this experiment a great number of times with all sorts of corn, rye, barley, wheat, and the like, uniformly with the same result, the grain, like the herbage, going exclusively into the two first chambers at the first swallowing. Having thus ascertained that the kind of aliment does not alter its route, M. Flourens next tried what effect a difference of volume would produce, and with this view caused three sheep to swallow pieces of carrot from half an inch to one inch in length, preventing the animals from chewing them by passing them back into the gullet through an iron tube. In one of the three sheep he found all the pieces of carrot in the paunch, and none in the king's-hood; while in the two others, he found pieces of carrot in the king's-hood as well as in the paunch; but in none of them were any pieces of carrot in the third or fourth chambers.

It being thus proved that neither the sort of food nor its magnitude of volume, had any effect upon its route, it remained to ascertain whether the diminution of its volume or its being more or less fluid, would influence it in any way? With this view, a quantity of carrots were reduced by mastication to a thin pulp, and two sheep were made to swallow this, and immediately opened. In both, M. Flourens found the largest portion of the carrot pulp in the paunch and in the king's-hood, but he also found in both a smaller portion in the third and in the fourth chambers. It appears, therefore, that unless aliment be reduced to a fluid or half fluid state, it does not, upon being first swallowed, pass beyond the king's-hood or second chamber.

As a general remark it is important to mention, that in all the preceding experiments, M. Flourens always found, both in the paunch and the king's-hood, together with the fresh swallowed and non-ruminated food, considerable quantities of other aliment, more or less bulky or dry, attenuated or fluid, and consequently affected by the process of previous digestion. He also found that there was almost uniformly a greater proportion of the bulky and dry digested aliment in the paunch, as there was almost uniformly a greater proportion of the fluid and attenuated aliment in the king's-hood.

So far the inquiry was easy, and the point to be ascertained simple, as it was only requisite to trace the food, little changed as it is by mastication, and consequently not difficult to be recognised; but the case is very greatly different in the instance of ruminated aliment and the second swallowing. At first, this aliment is more or less softened, and more or less macerated by its remaining in the two first chambers. It is also more or less divided, and more or less chewed by the second mastication, whence it is much more difficult to recognise such altered aliment, and consequently to trace it in its course through its several chambers.

It is obvious, therefore, that there are two modes of determining this question, one by means of some character which may certainly determine

* *Œuvres Anatom.* ii. 434.

† *Œuvres diverses*, p. 430.

‡ *Comp. Anat.* § 90. 1.

§ *Element Syst.* ii. 449.

|| *Mem. de l'Acad. Roy. des Scien.* 1768.

¶ *Œuvres*, iii. 49.

** *Element. Physiol.* vi.

†† *Des Organes dans le Ruminans.*

‡‡ *Sur la Ruminat.*

ruminated aliment in whatever character it may be found; or in default of such a character, another, by which it can be at once determined what aliment has just entered any of the chambers, and to follow this aliment into each of the chambers the moment it enters. Hitherto all authors seem to be agreed in the supposition that ruminated aliment carries with it a character distinguishing it from every sort of aliment, and hence the most simple and superficial experiments, all of the same kind, have appeared to be conclusive as to its course through the digestive organs. These experiments consist in making animals eat herbage, hay, and the like, opening them sometimes before and sometimes after rumination, and judging from the appearance of the aliment, ruminated or non-ruminated, found in each chamber, the part taken by each in the process of rumination. The results accordingly depend altogether on the supposed certainty of the characters distinguishing ruminated from non-ruminated aliment. If, however, we examine the points upon which these experimenters found this distinction, it appears that they consider all aliment which is coarse and bulky non-ruminated, and all which is reduced to a certain state of division or attenuation ruminated. From their going upon characteristics so very vague, it is not difficult to account for the discrepancies into which they have fallen.

Taking the instance of the first two chambers it appears, from the preceding experiments of M. Flourens, that the paunch and the king's-hood almost always contain, together with the coarse and dry aliment, other aliments more or less attenuated or fluid, and according to the regimen of the animal it will be presently made appear that these two chambers may contain either dry and coarse or fluid and attenuated aliment. It will therefore be evident, that, according to the particular case observed by each author who follows these vague distinctions, each will form a conclusion contradictory to the others. The paunch, for instance, frequently contains, besides the dry and coarse aliments, other aliments reduced to a certain state of attenuation and division; and Baron Haller, who particularly remarked these comminuted aliments, concluded that ruminated aliment on being re-swallowed, was discharged into the paunch. The king's-hood likewise sometimes contains nothing but coarse aliment, and hence Daubenton and Camper, who had observed this, concluded that the king's-hood only contained non-ruminated aliments; but the king's-hood sometimes contains nothing but thin and fluid aliments; and hence Chabert and Toggia, who had remarked this, concluded that the king's-hood only contained ruminated aliments.

Now it is requisite, first of all, to consider that division or attenuation may not always be produced by rumination, since there are other forces in operation which may attenuate and divide the aliment. Such, for example, is the contractile force of the paunch, more particularly where it is crossed by the ridgy folds already described, and grains of oats introduced artificially at first, swell and become soft, so that their interior pulp is as fluid as milk; then they throw off their envelopes, and if these are gradually reduced to fragments or *debris*, without the assistance of rumination, that is, of a second mastication, the gullet, in M. Flourens' experiments having been previously tied, to prevent the possibility of such an occurrence. It is therefore obvious, from this alone, that when aliment is found in any of the chambers attenuated

or divided, that it may not always have undergone the process of rumination; and hence the previous experiments of Daubenton, Haller, Chabert, Toggia, and others, are all faulty, from the authors not being aware of the attenuating action of the organs, independent of the process of rumination.

From the experiments above detailed it is proved that the food, on being first swallowed, goes into the two first chambers; but it is not proved that it goes immediately into both, and Daubenton and Camper suppose it to pass first into the paunch before going into the king's-hood. None of the experiments previously devised, how varied soever they might be, could solve this question, because, in all those experiments it was not immediately during the act of swallowing, but always a certain time after, and therefore subsequent to the possible passage of the aliment from one stomach to another, subsequent, in a word, to the death of the animal, that the experimenter can penetrate to the two chambers to examine them. The impossibility of arriving at any certain conclusion on the old system, suggested to M. Flourens a new manner of experimenting, highly objectionable, however, on the score of cruelty.

It is well known that animals, and even man himself, may survive for a greater or shorter period with artificial openings, either in the stomach or in the intestines, and hence M. Flourens conceived the idea of making such artificial openings in each of the four chambers, so as to be permitted to penetrate into the interior of each of the chambers whenever he chose, and in this way to ascertain the points in question by direct observation.

M. Flourens began by establishing a large artificial opening in the paunch of a sheep, that is to say, he first made an opening through the membranes of the paunch, and then drawing asunder the edges of the wound, fixed them by suture to the adjacent parts of the abdomen,—precautions indispensable for preventing the escape or the passage into the abdomen of the matter contained in the paunch, whether to bring nothing but the mucous surface of the chamber in contact with the exterior air, or to permit the experimenter to penetrate more easily and more certainly into the cavity.

When he had established the artificial openings in this manner, he waited till the animals began to eat. One ate the same day, and others two or three days after the operation, all not being at first equally affected by it, though some time later, when the primary effects have gone off, the general effects are in all cases nearly the same. Thus almost all the animals in which an artificial opening is established in any of the stomach chambers except the fourth, eat much more frequently than in their natural state, in consequence of a portion of the food escaping through the opening, and they also, for the same reason, drink a great deal more, but they ruminate less often, and become rapidly lean, seldom surviving many weeks, and often not more than a month.

When a sheep with an established artificial opening begins to eat, in a few seconds a part of the food which it swallows escapes by the opening in proportion as it eats and swallows. Besides, upon introducing his finger, and directing it towards the gullet, M. Flourens felt the aliment enter into the paunch, at the instant it was carried thither from the gullet. It is consequently certain that the aliment upon being swallowed the first time, passes directly into the paunch, but the

experiment did not determine whether any food also passed into the king's-hood.

M. Flourens established an artificial opening in the king's-hood of another sheep, and when the animal began to eat he observed a portion of the food escape by the opening as it was swallowed, and on introducing his finger by the opening into the king's-hood, he felt it enter into it the instant it was carried thither from the gullet. It thence appears proved, that the aliment, upon being swallowed the first time, passes immediately into the king's-hood as well as into the paunch.

In another sheep M. Flourens established a double artificial opening, one in the paunch and a second in the king's-hood, and by alternately introducing his finger into each, he felt, as in the two preceding experiments, the food arrive in each of the two chambers. But besides, he observed, even when the animal was neither eating nor ruminating, that the abdomen slightly contracted; and when, during such contractions, he introduced his finger into the paunch, he felt that also contract, and at the same time he could likewise feel a portion of food carried from the paunch forwards into the king's-hood. It has been already stated that the paunch is towards the left, and the king's-hood towards the right side of the animal; and M. Flourens proved, that when any substance was introduced into the left artificial opening of the paunch, in a certain time afterwards it came out more or less altered by the right artificial opening in the king's-hood. It has also been already stated that the paunch is paved by membranous ridges into several partitions or pouches. Now, if any substance be put through an artificial opening into the pouch or partition farthest from the king's-hood, this substance will pass gradually and successively into the other partitions in the direction of the king's-hood, till it at length enters into it. It is consequently proved, not only that the food, on being first swallowed, goes immediately into the two first chambers, but also that this food can pass from the first into the second chambers directly, without being subjected to the process of rumination. In order to ascertain the peculiar action of the paunch and of the king's-hood, M. Flourens introduced a variety of substances, and among others he sometimes introduced directly through the artificial openings small living animals, such as frogs, grey lizards, slugs, and earth-worms. In every instance these animals speedily died, and their texture was soon altered by the digestive powers of the stomach. Similar experiments made upon rabbits were uniformly followed by the same result, and consequently the popular opinion that small animals being swallowed and remaining alive in the human stomach and causing disorders must be considered untenable. The results of these experiments in explaining rumination will afterwards appear.

Although the establishment of artificial openings in the stomach causes animals to ruminate more seldom, it does not stop rumination, which often takes place in such circumstances several times a-day, and during the process M. Flourens introduced his finger frequently to ascertain what was going on within the chambers. Upon the food being swallowed the second time, he could feel some of it enter immediately from the gullet into the paunch, and also into the king's-hood, as occurred when it was swallowed the first time. But besides this, on separating the edges of the artificial opening, he could see a portion of the ruminated aliment go along the cud-duct into the third cham-

ber or maniplies; and by means of an artificial opening in the fourth chamber, he was able to follow it thither. It appears certain, therefore, that a portion of the ruminated aliment is returned into the two first chambers, while another portion passes immediately by the cud-duct into the third chamber.

The preceding experiments relate only to solid food; but as authors have all stated the rout of liquid aliment or drink to be different in ruminant animals, it became interesting, by the direct evidence obtainable through artificial openings, to ascertain the correctness of their statements. According to Camper, the greater part of any liquid swallowed is conveyed to the maniplies or third chamber, while a portion only remains in the paunch. "When animals," says Dr. Bostock, following Sir E. Home, "that possess a ruminant stomach take in liquids, they are conveyed, in the first instance, into the second stomach, where they serve to macerate the food as it passes from the paunch, so as to prepare it for the process of rumination."*

When an artificial opening is established in the stomach of any animal, it drinks much oftener than it does in the natural state; and while it is drinking, water is seen issuing from the artificial opening, whether they may be in the first, the second, or the third chamber; and if there be more than one artificial opening, one being in the third chamber, the water is seen issuing from this almost as soon as from the opening in the paunch. It is therefore proved that drink passes in part into the two first chambers as well as into the third and fourth, and that immediately in all the instances.

Reverting to the two facts, that coarse and bulky aliment passes exclusively into the two first chambers, and nothing but attenuated or fluid aliment into the two last, the causes appear to be easily explicable; for as the two last chambers communicate with the first exclusively through the inlet into the maniplies, an inlet naturally narrow, as all writers have remarked, and which besides, as M. Flourens ascertained, in many living animals can become so completely contracted as to exclude every substance which is coarse or of a certain bulk.

It is not more difficult to explain why coarse and bulky food falls always directly into the two first chambers, while attenuated and fluid aliment passes immediately, in part at least, into the two last; for upon opening the paunch and the king's-hood of a living sheep, as was done by M. Flourens, and making it swallow different sorts of aliment, when this aliment is coarse or of a certain bulk it falls partly into the paunch and partly into the king's-hood; while, on the contrary, if the aliment swallowed be attenuated or liquid, it is seen passing immediately, at least in part, into the maniplies, and through the maniplies into the fourth chamber.

Upon examining what takes place in the gullet during the process of each swallowing, it is observed to be dilated by the aliment, and opening when the aliment is coarse, and then the morsel is carried through the gullet directly into the paunch or into the king's-hood. On the contrary, when the aliment swallowed is thin or fluid, the gullet remains closed, and in that case the aliment takes the only way open to it, which is through the cud-duct into the maniplies, and thence into

* Element. Syst. of Physiology, ii, 462, 2d edit.

the fourth chamber, or, to speak more precisely, it follows the groove by which the cud-duct is prolonged into the gullet, forming in the corner of the latter a conduit always open even when the gullet is narrowed or quite shut; consequently this groove of the cud-duct is very inaccurately described by Daubenton as opening and shutting almost like the corners of the human mouth, one corner remaining shut while the other corner is open,* whereas it is never shut. So surely, indeed, is the open or shut state of the gullet the cause of attenuated or fluid aliment, being carried along the cud-duct, that whenever even fluid aliment is too much accumulated, or is swallowed too quickly, or encloses a bubble of air, the gullet being dilated thereby opens, and the aliment falls into the two first chambers in the same way as coarser aliment.

There are then two distinct ways of swallowing the one by the gullet, the other by the cud-duct, and the aliment takes the one or the other of those ways according to its bulk and solidity, the open or shut state of the gullet determining into which chambers it can go. It is moreover the aliment itself which determines the opening or shutting of the gullet, as when coarse or bulky it opens the naturally shut gullet, and when attenuated or fluid it leaves the gullet shut and passes through the always open cud-duct.

Having thus ascertained the mode in which ruminating animals swallow their food, and the course it takes when swallowed, the next point of inquiry is the mode in which the aliment, after having been swallowed the first time, is returned into the mouth to be rechewed and swallowed the second time. The slightest observation is sufficient to show that the swallowed aliment is not brought up again into the mouth by simple vomiting similar to that of non-ruminant animals, for ruminant animals have not only the common organs of vomiting, but peculiar organs whose mechanism and operation shall be presently investigated.

It is agreed among all authors that the organs in question of ruminant animals are of two orders, —mediate, such as the midriff (*diaphragma*), and the muscles of the abdomen; and immediate, such as the several chambers of the stomach, but there is considerable diversity of opinion as to the particular chamber which influences the process. According to Duverney, the paunch is the principal organ of communication, in which opinion Bourgelat, Chabert, and Toggia concur, while Daubenton, who is followed by Camper and most English physiologists, contends that the king's-hood is the principal organ. It is obvious from the preceding experiments, that it must be one or both of the two first chambers which returns the food; and in order to ascertain whether this was accomplished by their own or by some exterior force, M. Flourens made the following experiments:—

Upon laying bare the four chambers of the stomach in a living sheep, M. Flourens was astonished at the small degree of reciliary and contractile energy in their tissue. He successively tried all sorts of irritation, by pricking, incision, the actual cautery upon the membranes of each of the four chambers in several sheep, but he could not in this way discover either any partial contractions in the fibres immediately irritated, nor any general vermicular motion, however feeble. On the contrary, when the chambers, particularly

king's-hood and the paunch, are in their natural position, that is, under the combined influence of the midriff and the abdominal muscles, their contractile motion is very distinct, a motion which can be well observed by means of an artificial opening either in the paunch or in the king's-hood, they are both found to contract with considerable force during the efforts made to bring up the food into the mouth.

The paunch has already been more than once mentioned to be divided into several pouches, by projecting membranous partitions corresponding with furrows on the outside of the organ. Now, on introducing the finger into the paunch through an artificial opening, the sides, and more particularly the membranous partitions, are felt forcibly contracting, and forming as it were knots. Again, upon raising up the superficial envelope of the middle region of the abdomen, and leaving untouched only the transparent membrane (*aponeurosis*) which covers the paunch, the exterior of this chamber is perceived contracting, dilating, and almost incessantly exhibiting a great vermicular motion. It is therefore certain that the contractile motion of these chambers of the stomach is much greater in their natural position than when they are laid bare.

In order to ascertain whether rumination would take place without the aid of the abdominal muscles, which all authors maintain to concur in the process, M. Flourens deprived these muscles of their power of action in a sheep, by cutting their two nerves (*nerfs diaphragmatiques*.) The animal was immediately seized with a great wheezing, and the chest heaving with difficulty, breathing appeared to be carried on solely by the contractions of the deep-seated muscles of the belly. By degrees the wheezing diminished or disappeared; the animal began to eat, and next morning it ruminated but with difficulty, and with efforts affecting the abdominal muscles, which exhibited several successive contractions before the aliment could be brought up into the mouth. The cutting of these nerves, therefore, renders rumination more difficult without causing it to cease. It is to be recollected, however, that the cutting of these nerves does not stop the motions of the midriff, but only renders it more feeble. By other experiments M. Flourens proved, that when the actions of the abdominal muscles is entirely stopt by dividing the spinal marrow, rumination ceases.

So much, then, for the organs which in rumination as well as non-ruminating animals concur in ordinary vomiting; but the peculiar vomiting or bringing up the food into the mouth in the process of rumination is greatly different. The peculiarity in the case of rumination is, that the bringing up the food from the stomach is not a confused vomiting or belching as in non-ruminant animals, but a regular rejection of the aliment in detached portions. Daubenton, the first author that has given any distinct account of this peculiarity, which he says consists in the king's-hood contracting, detaching from the mass of aliment contained in it a portion thereof, forming this into a rounded pellet or *cud* (a corruption of the word "quid,") and moistening this to render its passage up to the mouth more easy. This account appears to be acquiesced in by Camper, by Blumenbach, and by most of our English writers. Dr. Bostock says, "From the second stomach the food is again brought up into the mouth in the form of a rounded ball."*. On the other hand, this ac-

* *Ann. Rozie r, Cours d'Agriculture, iii. 694.*

* *Element, Syst. of Physiology, ii. 449, 2d edit.*

count is circumstantially rejected by other authors of note. M. Chabert says there is small ground for believing those who pretend that the king's-hood is destined to round and moisten the pellets to be carried up into the mouth. M. Bourgelat again concludes, first, that the king's-hood does *not* detach from the mass of aliment contained in it the portion which is to be returned into the mouth; secondly, that it does *not* perform the office of rounding and moistening such portions, as these naturally take the form given them by the gullet, through which they pass, and consequently he denies the existence of rounded pellets. It will immediately appear that both of these theories are erroneous.

M. Flourens began his experiments on the points in question, by cutting out a portion of the king's-hood in a living sheep, and in order to diminish as much as possible, the contractile action of the remaining portion, he fixed, by several points of suture, the edges of this portion to the sides of the abdomen. Being thus deprived of one of its sides, while the other side was fixed so as to prevent almost any motion, it was evident the king's-hood could not contract itself into a rounded form, so as to prepare rounded pellets. Accordingly, therefore, if it be indispensable to rumination that pellets be formed, and if it be the king's-hood which forms these pellets, as Daubenton maintains, it would have been impossible for M. Flourens' sheep to ruminate; but it did ruminate, and that frequently, and hence it is proved that the king's-hood does not perform the office attributed to it by Daubenton; for admitting that pellets are formed, it is not the king's-hood that forms them. Daubenton, indeed, is the only author who mentions these pellets, and he had only seen them once by accident, for nothing of the kind is discoverable on opening the stomachs of ruminant animals. M. Flourens, finding that pellets, contrary to Bourgelat, were actually formed, resolved to trace them to their origin.

M. Flourens, in order to procure a pellet, opened, by an incision made lengthways, the gullet of a sheep, towards the upper third of its passage along the neck, hoping that if the animal ruminated, the pellets, as they came up from the stomach, on arriving at the opening of the gullet, would fall out. The animal, however, did not ruminate, and lost almost incessantly a prodigious quantity of saliva through the upper end of the incision. It frequently sought to eat, and more particularly to drink, but all that it ate or drank immediately escaped through the upper end of the incision. After preserving it for three or four days in this state, he opened it, and found the paunch to contain no liquid whatever, all the materials in it being dry, and as it were kneaded into compact and separate masses in the several partitions of the chamber. What was more interesting, he found towards the spot where the paunch corresponds to the termination of the gullet, a pellet perfectly rounded, of about an inch in diameter, like the one seen by Daubenton. This pellet touched on one side the shut termination of the gullet, on another the mass of herbage contained in the anterior partition of the paunch, while the remaining portion of it was placed between the two margins of the cud-duct. With respect to the king's-hood, it contained nothing whatever, either solid or liquid.

In another sheep, M. Flourens made an incision in the gullet similar to the preceding. It ceased to ruminate, and lost, as in the preceding experi-

ment, a prodigious quantity of saliva. After preserving it for two days, he opened it, and found the materials contained in the paunch already dry, but not so much so as in the first experiment. They were likewise divided into distinct compact masses, by the interior partition of the organ. The king's-hood was quite empty. With respect to the cud-duct, he found it in a pellet, not as in the first case completely formed, but beginning to be formed, and therefore showing more distinctly the mechanism of its formation. The half-formed pellet corresponded on one side to the shut termination of the gullet, and on the other to the shut inlet to the maniplies, while the rest of its surface was placed between the edges of the cud-duct. It was apparent from this, that the apparatus by which it was formed consisted on the one part of the shut termination of the gullet approaching the shut inlet of the maniplies, and on the other the cud-duct.

The gullet of a third sheep was operated upon in the same way as the two first, and this animal, contrary to what took place in the others, continued to ruminate. It ruminated, indeed, some hours after the operation; and M. Flourens perceived the pellets which ascended along the throat fall through the opening of the gullet, as he had anticipated, when he contrived the first experiment. The pellets thus procured were moist and soft, but had not so perfect a round form as the firm dry pellet found in the first sheep. The pressure of the gullet had rendered them somewhat oblong and cylindrical, though it was obvious they had been previously round. From the morning of the operation the animal ceased to ruminate, and during three or four days which it was preserved, it ruminated no more. After this it was opened, when the paunch was found to contain nothing but dry materials moulded into distinct masses, and the king's-hood was completely empty, while the cud-duct contained a pellet dry and round, placed against the termination of the gullet, precisely as in the first sheep.

These experiments prove, that in the rejections of ruminating animals pellets are formed; that these are rounded; and that it is the cud-duct, together with the shut termination of the gullet approached to the shut inlet of the maniplies, which forms the pellets.

In order to form a distinct idea of the mechanism by which the pellets are moulded, it will be necessary to recollect, first, that the cud-duct extends from the termination of the gullet to the inlet of the maniplies; secondly, that when it contracts, it approaches one or other of these apertures; thirdly, that of these two apertures, the termination of the gullet is habitually shut, and the inlet of the maniplies naturally straight, can be so narrowed as almost to close by its own contraction; and fourthly, that when the two first chambers, compressed by the abdominal muscles and the midriff, contract, they push in consequence the materials which they contain both against the two apertures opposite to each other, and against the cud-duct opposite to the two chambers. The two chambers, in this manner, in proportion as they contract, push the materials contained in them between the margins of the cud-duct, and the cud-duct also contracting, causes the two apertures of the gullet and of the maniplies to approach, while the two apertures being closed and brought near together, seize upon a portion of the aliment and detach it in the form of a pellet. The aperture of the gullet is closed during the act of detaching

the pellet, because at that instant the midriff is contracted, and it only opens when the midriff is relaxed; and the aperture of the maniplies is closed, because at that instant the maniplies, as well as the other chambers, is contracted.

From these circumstances, it is obvious that the pellet must be detached, as it could not otherwise be seized by the two approaching apertures; that the pellet must be round, for this is the form of the cavity formed by the parts of the organs employed in the process; and that the pellet must be about an inch in diameter, for the cud-duct, when contracted in the act of forming the pellet, is about an inch in length.

There results from these experiments of M. Flourens another important fact respecting the digestion of ruminant animals. Baron Cuvier long ago showed that the salivary apparatus was unusually developed in such animals, and the experiments just detailed show how copiously the saliva flows along the gullet into the stomach, and when it escaped by the incisions, that the food in the paunch became dry, hard, and compact, the chambers becoming deprived of all liquid. Even, indeed, when a pellet has been properly moulded, as without moisture it cannot ascend the gullet, it remains placed against the aperture of the gullet. In ordinary cases, no pellet is found on opening a ruminant animal after death, for the instant they are formed, they ascend the gullet into the mouth.

To secure, as far as possible, the moistening of the pellets in rumination, there is a remarkable provision in the structure of the king's-hood or second chamber. When much contracted, Daubenton says its cavity is not more than an inch in diameter, and much altered in appearance. "I have seen," he says, "the interior of this organ, without recognising it, as instead of a net-work of large meshes, there were only small sinuosities irregularly directed, upon examining which I found them to be deep, and containing fluid. While I was making these observations, the king's-hood relaxed from its shrunken state, the sinuosities enlarged, and took, under my eye, the figure of the meshes of a net such as we have seen them in this organ, when it is not contracted. Then the fluid disappeared, but I squeezed the meshes to make them take their previous form, and at that instant I perceived fluid ooze out and even run. I repeated this compression, and the fluid reappeared each time: it was contained in the thickness of the organ as in a sponge."* M. Flourens adds, that when the king's-hood contracts, the projecting membranes of the polygonal meshes are brought close together, and form hollow cells or small tubes, transforming the whole interior into a sort of sponge, into the interstices of which the copious fluids usually contained in this chamber are squeezed at the instant of contraction, and not returned to the mouth for rumination along with the pellet.

It is apparently owing in part to this structure, that ruminating animals can subsist longer than non-ruminant animals without drinking. Goats and deer, for example, drink very little, and not to mention the camel and dromedary, whose stomachs are still more adapted to retain fluid. M. Daubenton proved by experiment that sheep could stand the want of water for a long time, and that they would live without drinking on chaff and hay. The French shepherds all agree in telling him, that it was not necessary for sheep to drink every

day, but they disagreed as to the number of days which could be passed with impunity without water. "After so many proofs," he concludes, "of different kinds, it cannot be doubted that a great deal of water taken as drink, with moist herbage, or other watery food, is injurious to the health of sheep and the cause of most of their disorders. The effects of this may be recognised in hydatids or vesicles full of water, which are so very common in sheep. These adhere to the viscera, and I have frequently found them in the middle of the brain, where they enlarge so much as to compress and reduce it to a small volume. I have seen them fill three fourths of the cavity of the skull, and prove fatal after the animal had languished for a very long time. These hydatids sometimes pierce the skin and stick amongst the flocks of the wool. In order to fill these vesicles, the fluid portion (*sérosité*) of the blood must be so abundant, and must escape from the bloodvessels so as to form deposits both within and without the body. Sweat is also a production of the fluid portion (*sérosité*) of the blood, and hence is more to be dreaded in ruminating animals than in others, inasmuch as sweating greatly diminishes the fluid, which ought to be employed in rumination. If sheep are sweating while they ruminate, therefore, there will be two evacuations of fluid at the same time, the body will be dried, and the blood exhausted and heated by the loss, while thirst will supervene so as to make them drink till they are incommoded, and their temperament altered. Sweating is also hurtful to sheep in other respects; for the fibres of their wool are thereby deprived of a part of their nourishment, which the sweat carries out of the body, while the heat which occasions the sweat causes the wool to grow too rapidly to acquire sufficient consistence. Yet we (in France) lodge our sheep in stables, where they sweat not only in summer but also in winter, and by ill-managed care and at an expense useless as well as hurtful, we affect their health and deteriorate their wool."*

It is obvious that on the same principles, the proper feeding of cows to produce the greatest quantity of milk must be regulated. If they are fed, accordingly, on very dry food, such as hay, the greater portion of fluids in the blood will be spent in the process of rumination and digestion, and the milk will be scanty; whereas, when the aliment abounds in liquid, such as mangold wurzel or brewer's grains, and distillers' wash as in Holland, they will ruminate much less, a less quantity of saliva will be wanted for chewing the cud, and a larger proportion will go to the production of milk, though this will be thinner and not so rich in cream as the milk produced from drier food. It is to be questioned, indeed, by inference from the experiments of M. Flourens, whether cows fed wholly on distillers' wash would ruminate at all any more than calves, which so long as they suck never ruminate.

It thus appears, that a correct knowledge of the process of rumination, though a practical farmer might, at first sight, look upon it merely as a speculative curiosity, may lead to many important facts connected with the health and the diseases of these would extend this paper much beyond our limits, and already more than enough has been stated to show the interesting nature of the process of rumination.

* Rozier, Cours d'Agriculture, iii. 693.

* Rozier, *ut supra*.

THE GREAT SMITHFIELD CATTLE CLUB SHOW.

This, the thirty-eighth annual show of fat cattle, which on all occasions produces so much interest, took place on Friday, Dec. 9, at Sadler's Repository, Goswell-street.

The Judges—Mr. C. Stokes, of Kingston, Leicestershire; Mr. Edward Franklin, of Ascot, Oxon; and Mr. Hirst, of Langdon, Warwickshire; having been engaged the whole of Thursday in making the awards, adjudged to the breeders and feeders of the under-mentioned cattle the following prizes for stock properly qualified according to the general and particular conditions of the show:—

CLASS 1.

For oxen or steers of any breed, under five years of age without restriction as to feeding.

A prize of 20 sovereigns to the Marquess of Tavistock, for his three years and ten months old Hereford ox, and also a gold medal.

To Mr. John Verney a silver medal, as the breeder of the same.

To the Right Honourable Earl Spencer, a medal was recommended for his four years and seven months old Durham ox, bred and fed by his lordship.

A three years and six months Durham steer, fed by the Hon. John Simpson, of Babworth, Nottingham; and a four years and eight months old Hereford ox, fed by Mr. William Giblett, of New Bond-street, were highly commended.

CLASS 2.

For oxen or steers of any breed, under six years of age, weight 90 stone and upwards, that shall not have had cake, corn, meal, &c., previous to the 1st of August, 1836.

A prize of 20 sovereigns to William Loft, Esq., of Trusthorpe, for his five years and five months old Durham ox, bred and fed by himself; a silver medal was also awarded him as the breeder of the above ox.

CLASS 3.

For oxen or steers under five years of age, of any breed, under 90 stone and above 70 stone weight, that shall not have had corn, cake, &c., before the 1st of August, 1836.

The first prize of 15 sovereigns was adjudged to Wm. J. Bailey, Esq., of Shenley-house, near Stoney Stratford, for his three years old Hereford ox, bred by Mr. Watkins, of Fordtown.

A silver medal was adjudged to Mr. Watkins, as the breeder of the same.

The second premium of ten sovereigns was adjudged to Mr. Joseph Bailey, of Stoney Stratford, for his three years old Hereford ox.

CLASS 4.

For oxen and steers of any breed, not exceeding four years and three months of age, under 70 stone weight, that shall not have had corn, cake, &c., before the 1st of August, 1836.

A premium of ten sovereigns to Wm. J. Bailey, Esq., of Shenley-house, for his four years old Scotch ox, bred by Mr. M'Turk.

CLASS 5.

For fattened cows or heifers under five years of age; free-martins and spayed heifers not qualified.

A prize of 15 sovereigns was adjudged to Stafford O'Brien, Esq., of Blatherwyke-park, Northamptonshire, for his three years and seven months old Durham heifer; and also a silver medal as the breeder of the same.

CLASS 6.

For fatted cows of five years old and upwards; free-martins and spayed heifers not qualified.

To Mr. Samuel Bennett, of Bickering-park, near Woburn, the first prize of fifteen sovereigns in this class was awarded for his six year old Durham cow, bred by Mr. William Brown.

A premium of five sovereigns to the feeder of the second-best cow in this class was adjudged to Mr. Henry Cleave, of the Edgware-road, Middlesex, for his

seven year eight months old Durham cow, bred by Lord Montagu.

CLASS 7.—SHEEP.

A prize of ten sovereigns was adjudged to Mr. John Painter, of Burley, near Oakham, for his three twenty months old Leicester wethers, bred and fed by himself. There were no other competitors in this class.

CLASS 8.

For long-woolled fat sheep, two years old, without restriction as to feeding.

A prize of ten sovereigns was awarded to Mr. R. Bird, of Biggleswade, for his three twenty months old Leicester wethers.

CLASS 9.

For long woolled fat wethers, two years old, fed without restriction, above twenty-two months and under thirty-four months old.

A premium of ten sovereigns was adjudged to Mr. Richard Rowland, of Creslom, for his three thirty-two months old wethers.

A gold medal, value of five sovereigns, was adjudged to Mr. William Bird, as showing the best pen of long-woolled sheep of any class.

SHORT-WOOLLED SHEEP.

For short-woolled sheep, without restriction as to feeding.

As feeder of the best pen of three twenty-two months old wethers a prize of fifteen sovereigns was awarded to Stephen Grantham, Esq., of Stoneham, Sussex, for his twenty months old South Downs. A silver medal was also awarded as the breeder of the same.

The second prize in this class was adjudged to his Grace the Duke of Richmond, for his twenty months old South Downs, bred and fed by himself.

A pen of South Downs, bred and fed by Thomas Ellman, Esq., of Beddingham, Sussex, were highly commended.

The South Downs exhibited by the Hon. Locke King, and also those of Mr. Jonas Webb, of Babraham, near Cambridge, were commended.

CLASS 11.

For short-woolled wethers, two years old, without restriction as to feeding.

As feeder of the best above 22 months old, and under 34 months, a premium of 10 sovereigns was awarded to his Grace the Duke of Richmond for his three 32 months old South Down wethers, bred by his Lordship, and a silver medal as breeder thereof.

The second prize in this class of five sovereigns was adjudged to Stephen Grantham, Esq., for his three 32 months South Downs, bred by himself.

A gold medal was awarded to his Grace the Duke of Richmond for his three 32 months old South Down wethers, and which also gained the first prize in class 11.

PIGS.

The first prize in class 12 was awarded to Francis Tanner, of Hoydon-mount, for his three 20 weeks old Essex and Neapolitan pigs, a prize of 10 sovereigns.

A silver medal, as the breeder of the above, was adjudged to Mr. Tanner.

The second prize of five sovereigns was awarded to Mr. Poulton, of Hornsey, for his three 17 weeks old Suffolk and Norfolk pigs.

EXTRA STOCK.

A silver medal was awarded to Mr. Wm. Giblett, of Bond-street, for his four years and eleven months short-horned ox, bred by Mr. J. Black, of Denedon, near Hereford.

A silver medal to the exhibitor of the best long-woolled sheep was awarded to Lord Sherborne for his four years and eight months' old long-woolled ewe.

A silver medal was adjudged to the Hon. L. King for his thirty-three months old South Down wether.

A silver medal was adjudged to Mr. Wm. Poulton, of Hornsey, near London, for his Suffolk and Hertford pig.

THE DINNER.

This annual festival was held on Monday, Dec. 12, at the Freemasons' Tavern. The Earl Spencer, President.

On the noble lord's right and left we observed his Grace the Duke of Richmond, the Hon. Capt. Spencer, the Rev. Algernon Peyton, J. Dodd, Esq., the Mayor of Northampton; T. Senior, Esq., Stephen Grantham, J. Druce, John Ellman, John Buckley, George Inskipp, Robert Lindell, John Gwilt, Thomas Loft, Henry Trower, and — Hildyard, Esqrs. There were about two hundred persons interested in the breeding and feeding of cattle and general agricultural pursuits sat down to dinner, which was a substantial one.

The cloth having been drawn,

The CHAIRMAN proposed "The health of the King"—(*Great cheering.*) "The health of the Queen and the rest of the Royal Family," was next proposed, and duly honoured.

The next toast the Noble CHAIRMAN gave was, "Prosperity to the Smithfield Club." In proposing this toast, in which his lordship said he conceived they were all so deeply interested, he thought it was necessary, however good the judgment of the generality of the farmers might be, that there should be a stimulus to keep up the breeds of the various cattle throughout the country; or, for want of it, he feared a general deterioration would take place.

The Duke of Richmond here interrupted the noble Chairman, and stated that he thought it would be more satisfactory to the gentlemen assembled for him to propose "the health of the noble Earl Spencer," who had for years paid such constant attention to the interests of the club. (*Loud applause.*)

The noble EARL, in returning thanks, said that he felt it to be a matter of duty—and a matter of pleasure it was to fulfil that duty, inasmuch as he never felt more comfortable than when he met the farmers and gentlemen of the country. (*Cheers.*) He liked agricultural pursuits, and, having tried many others—(*great laughter*), no one pursuit gave him so much satisfaction, with so little alloy as this did. (*Cheers.*) Although he had not been so successful on this occasion as he had been in other years, he would always endeavour to bring the best animals he could to the show, and, under any circumstances, he hoped he should never produce a bad one.

The healths of the several noblemen and gentlemen who have obtained prizes and medals at the late show were then proposed, and cheerfully responded to.

Upon "the health of his Grace the Duke of Richmond" being proposed, great cheering took place; and his Grace in returning thanks, said he felt highly gratified at the manner in which his name had been associated with agricultural pursuits, and he also must express the great pleasure which he at all times felt in meeting his brother farmers. (*Cheers.*) He felt it due to himself and them to state that great benefits arose to the community at large through their exertions. He had stated at their last general meeting, when he was an unsuccessful exhibitor, that he would endeavour to improve his stock; he had made that attempt, and had been successful. As a candidate before them in future, he pledged himself that a bad South Down should never carry off a prize. There were, no doubt, many more capable, but none more anxious for the welfare and prosperity of the farmers than himself. (*Cheers.*) He felt most sincerely grateful for the honour conferred by those around him. (*Cheers.*)

The health of Mr. Hildyard, President of the Northamptonshire Farming and Grazing Society, was next proposed.

Mr. HILDYARD, in returning thanks, said—It had been his lot for several years past to return thanks as an unsuccessful candidate, a situation of which he confessed he was not proud. But his feelings upon the present occasion were very different, for he did feel some degree of pride in having been President of the Northamptonshire Farming and Grazing Society for near twenty years; a society which enjoyed the powerful patronage and most liberal support of the noble lord now occupying the chair at this meeting. That noble

lord had given a better description of the shew than it was in his power to give; however, as an old practitioner in these matters, he might be allowed to make a few observations. He had always told them that he considered the Northamptonshire Society as a nursery for the Smithfield Club. For many years past there have been a number of the animals in the shew-yard here, which had been previously exhibited at the Northamptonshire shew. This year there are not more than one or two, and this circumstance he might fairly argue had been one cause why the show was so indifferent in classes 2, 3, 4, and 5. Several of his friends exhibiting in those classes shewed desperately inferior lots, compared to what they had been accustomed to do. My friend, Mr. Senior, for instance, occupies as fine land as any in England, in the Vale of Aylesbury. I asked him how he came to shew so indifferent an animal as that in class 2. His excuse was that the animal was lame, and therefore he was obliged to put him into a boat, and, having done so, he thought he might as well put him into the shew-yard, without entertaining any expectation of his winning. I believe the bullock was lame, but I believe the excuse was *lamer*, for I think if my friend had possessed a better beast, two would have been put into the boat instead of one. Now I can make a better excuse for my friend sending so inferior an animal. I walked over his farm in August last, and from the long-continued drought which had then taken place, I found his fine pastures with but little more grass upon them than is usually seen throughout the country on commons where geese are fed; and it seems that this great drought was not confined to the Vale of Aylesbury, but that it extended to the neighbourhood of Stony Stratford, and that the pastures there must also have resembled a goose common; otherwise, my friend, Mr. Bailey's fat ox, which gained the prize in class 4, would have had a little more meat on his back and sides. Before he sat down he would make a remark upon his lordship's observations, that the finances of the club were in a flourishing state, and take the opportunity of recommending that the prize to the butcher who lays out most money in the yard, be altered for next year. He did not mean to say that the butchers are men more likely to be in their cups than other men, but he thought that they would be more pleased to exhibit to their friends as a prize obtained at the Smithfield show, a cup with something good in it, than in dangling upon the finger a bit of ribbon with a medal attached to it. Mr. Hildyard, on sitting down, was loudly cheered from all parts of the room.

Mr. GIBLETT's health being proposed, in returning thanks he said that he was very much pleased to find that he had been a successful candidate. Among stock in general he expressed an opinion in favour of the Hereford, and contended that no animal could be so perfect as those which bore a fair proportion of lean to fat.

On "the health of the Judges" being drunk, one of them, Mr. Stokes, said that Mr. Giblett might be a very good judge of fat cattle when arrived in town; but he had very little opinion of his judgment as a breeder of stock.

Several other toasts and sentiments having emanated from the noble Chairman, and which were most cordially responded to by the company, his Lordship, accompanied by the Duke of Richmond, left the room, amidst the deafening plaudits of the numerous company.

TO THE EDITOR OF THE SUSSEX ADVERTISER.

SIR,—The very many Half-crown Agricultural Book Clubs, established in the South of England, having made known the means by which the Scotch have been enabled to supply the London Markets with meat, have suggested whether it may not be worthy the consideration of the subscribers to our Fat Cattle Shows in Sussex, that some premiums be also offered for the stock *soonest marketable*, as in North Britain.

A FRIEND TO AGRICULTURE.

MERRY CHRISTMAS AND HAPPY NEW YEAR.

(From the Comic Almanack.)

Merry Christmas and happy New Year !
Here's a bundle of " little accounts ;"
And their bearers left word they'd be glad
If you'd settle their little amounts,
They've all got " large sums" to " make up,"
And cannot wait longer, they swear ;
So I wish you the joys of the season—
Merry Christmas and happy New Year !

Here's the doctor's—a horrid long bill—
And he vows he's as badly as you ;
For his patients won't pay him a groat
And he's dying of *Tick Doloreux*.
But he says he's consulted a friend,
A lawyer that lives very near ;
So I wish you the joys of the season—
Merry Christmas and happy New Year !

The surgeon's is not a wit less ;
At its items I really shiver'd ;
A hundred for Sally's confinement ;
A hundred to " Bill delivered,"
A hundred for mixtures and pills
(I think it uncommonly dear) ;
But I wish you the joys of the season—
Merry Christmas and happy New Year !

The baker has brought you a roll
Which will take you a month to digest ;
He looks most uncommonly crusty,
And says that, of all trades, he's best
If a baker's is not the most *kneady* ;
And hints at John *Dough* ; and I fear—
But I wish you the joys of the season—
Merry Christmas and happy New Year !

The poul'trer his " Game Bill" has brought ;
This year's—and last year's in addition.
Twelve guineas for Black-cock alone,
Which I think is a *grouse* imposition.
Ten guineas for pheasants and hares !
And he charges his ven'son as *deer*.
But I wish you the joys of the season—
Merry Christmas and happy New Year !

Here's your butcher—the city M. P.—
Begs to " *ar* leave to bring in his *bill*,"
It takes up six folio pages :
Good heavens ! it's as long as a will.
He says times are quite out of *joint* ;
And he *must* have the cash ; so, my dear,
I wish you the joys of the season—
Merry Christmas and happy New Year.

And, oh dear ! here's a note from your steward !
He says your estate he's been round,
And examined your books and your papers,
And you can't pay a crown in the pound,
There's writs out against you by scores ;
You're surrounded by tipstaves and bums ;
So I wish you, my love, a good Christmas !
And a happy New Year—when it comes ;

TO THE EDITOR OF THE SUSSEX ADVERTISER.

Sir,—Your paper of November 28th, having asked whether it would not be advantageous that some of the premiums at the various cattle shows, should be for the stock *soonest marketable*, the 32d Quarterly Journal of Agriculture has been examined, which contains the list of premiums amounting to upwards of 1,600, but it is found that those for live stock do not exceed 450l. A sum far inferior to the aggregate of Smithfield premiums, and those at various English Towns, as Hailsham, Battle and Lewes, in East Sussex only. But the small comparative amount is more than compensated

by the additional *honour* from the number of competitors in a struggle, where the unsuccessful candidates may be supposed to have good, if not the very best stock. The competitions taking place in the presence of the *principal landed proprietors*, added no doubt to the endeavours of the candidates, to obtain the prizes, and the liberality of throwing them open to those who are not subscribers, was rewarded by Mr. Ellman, taking his fine sheep to Perth, and if he brings home a conviction of the utility of Scotch Ploughs with two horses only, stall feeding, and rotation of crops, which have enabled the less genial portion of this island to supply the South with meat, *our gain will be very great*, and add to the obligations we are already under, to Mr. Ellman's family. I hope you will favor this with insertion, in your extensively circulated Journal, as the shows now going on recommend the speedy consideration of future premiums. A. Z.

HORTICULTURAL SOCIETY. — The ordinary meeting was held on Tuesday afternoon, HENRY MORETON DYER, Esq., Vice-President, in the chair. Dr. LINDLEY, the Secretary, read a communication from Mr. THURNSON, one of the gardeners of the society, being a report of some experiments on the culture of the potatoe, which were a continuation of those published some time since in the society's transactions. By planting them at a greater distance, so as to ensure a freer action of light, beneficial effects were produced, and the results seemed to show that the crops were the greatest when the distance was proportionate to the height of the stems, an average of two feet being found the best medium. The points of the tubers were found more productive than the whole root. The month of March was found the most beneficial for planting, and it was also ascertained that the greatest quantity of potatoes was produced when the tubers were placed at a depth of six inches, and the least at three inches. These results had been confirmed by a great variety of experiments.

OLD ENGLISH FARE. — The following is a dinner of the reign of Charles the First:—A soupe of snayles, a powered goose, a joll of salmon, and a dish of green fish, buttered, with eggs ; this was a first course. Then came a Lombard pie, a cowe's udder roasted, a grand boyled meat, a hedge-hog pudding, a rabbit stuffed with oysters, polonian sausages, a mallard with cabbage, and a pair of boyled cocks. To these succeeded *as entremete*—a spinnage tart, a carbonated hen, a pye of aloes, eggs in moonshine, a christal jelly, jumballs, quiddany, braggat and walnut suckets. Cockale, surfeit-water, canary, sack, and Gascony wines, served to moisten this heterogenous repast. The following is taken from " Wrecker's Secrets of Nature," published in the next reign, 1660:—*A live roasted goose*.—The details of the process are too barbarous to repeat, but when the roasting is accomplished the writer adds : " Then take her up, set her before your guests, and she will cry as you cut off any part from her, and will almost be eaten up before she is dead ; it is *mighty pleasant to behold*."

SIMPLE CURE FOR RHEUMATISM.—Boil a small pot full of potatoes, and bathe the parts affected with the water in which the potatoes are boiled, as hot as it can be applied, immediately before getting into bed. The pains will be removed, or at least greatly alleviated, by the next morning. The most obstinate rheumatic pains are known to have been cured by one application of this novel and simple remedy.

A draught-horse of the Clydesdale breed, belonging to Mr. Gray, of Kirkoswald, Morriston, died last week, after having reached the 33d year of his age. He was 15 hands high, square in the quarters, and all his life remarkable for spirit and action

THE PATENT RETARDER, OR IMPROVED DRAG.

The object that the projectors of this contrivance have in view is to obviate the danger and risk that passengers are exposed to, whether travelling by stage coaches or other vehicles, when descending hills, or in case of the horses of their carriage becoming unmanageable, restive, or running away. On Tuesday afternoon a number of trials were made with a view to test the efficacy of this invention, by running a stage coach with the retarder attached to it, (with and without horses,) up and down Highgate hill, and the result was most satisfactory. To a casual observer there is no essential alteration in the appearance of a coach to which the retarder is attached, and certainly it adds no great weight but to it: but by its construction either the coachman or the guard, and indeed any person in the rear of the coach, by the pressure of the foot on the spring rising from this machine, and without alighting, can retard or stop the progress of it at pleasure. The principle of this machine, as we understand it, is that by increasing the pressure on the boxes of each of the hinder wheels the friction is increased to such an extent as to stop the progress of the vehicle. This is managed by means of a lever with springs acting above and below the box of each of the hind wheels, and, as we before observed, can be applied by any person on the top of the coach. As far as we were enabled to judge of the merits of this invention from the trial of Tuesday, we were perfectly satisfied of its utility. Every person who has travelled to any extent must be aware of the inconvenience and danger that results from the pressure of a heavily laden coach on the horses in descending a steep hill; but by means of the retarder the coach can be stopped, or its progress regulated at pleasure, almost imperceptibly to the passengers, or the machine can be applied in a manner to operate as an additional draft of several tons. Again, on ascending a hill, a coach can be stopped at pleasure by means of this invention, so as to prevent its running back. At the same time the recurrence of those accidents can be prevented which so often arise from the coachman, on leaving his box, placing the reins in charge of a passenger or horsekeeper. The proprietors of this machine contend that the adoption of it by coach proprietors would be attended with considerable pecuniary advantage to the latter; of this, however, we are unable to express an opinion, but we have no hesitation in stating that the general application of it to stage coaches would be attended with considerable advantage to the public both as regards the safety and convenience of travellers, and at the same time much time would be saved in a long journey which is now lost in stopping the coach to apply the drag. The experiments are to be repeated this day and to-morrow, at the hours of 11, 1, and 3 o'clock, at which times the coach, with the retarder attached to it, will leave the Archway Tavern, at Holloway, to ascend Highgate hill. The patentees of this most useful machine are Messrs. Makepeace and Pearson, of Mitcham, Surrey, and the merit of the invention is due to the former of these gentlemen.

THE BEET-ROOT.—(Communicated by John Murray, Esq.)—As the extraction of sugar from the beet-root is even seriously contemplated in this country, though to a limited extent, it may be not unimportant to mention, that the kind of beet-root is of paramount interest, and that there are some kinds from which no profitable return can be reasonably expected. Nor is

this merely interesting in reference to the present speculation, but to the agriculturists in the fattening of cattle; since it is well known that saccharine matter is one of the most nutritious principles in vegetation. The 200 acres of beet-root in Bedfordshire, said to be destined for conversion into sugar, if I am correctly informed, is that commonly known to agriculturists under the German appellation of *mangold wurzel*: but this is by no means that cultivated in France for the purpose in question. That to which the decided preference is universally given, is the **WHITE SILESIAN BEET-ROOT**, (*Betterave blanche de Silésie*); the quantity of sugar obtained is not only in a much greater ratio, but the roots resist the effects of frost better than any other. The next in order is the **BLOOD-RED ROOT**, which we commonly rear in our gardens, to mix with salads. There is besides these a *yellow* variety (*Betterave de Castelmandury*); but the cultivation of this kind, though once extensive, is now commonly abandoned. Independent of a *minimum* ratio of sugar, the root is subject to incessant change, and constant degeneration even in the same soil and circumstances of culture. Not only is the refuse excellent for feeding and fattening farm stock, so employed by the late Count Chapral for many years, but it is proposed to convert it into *paper*. Consumed to ashes it yields *potash*.

AGRICULTURAL PRODUCTION AND POPULATION (IRELAND).—In the report on the inquiry into the state of the Irish poor, the commissioners remark, that while in Great Britain the agricultural families constituted little more than a fourth, in Ireland they constitute about two-thirds of the whole population; that there were, in 1831, 1,055,982 agricultural labourers in Great Britain; and in Ireland, 1,131,715, while the cultivated land of Great Britain amounts to about 34,250,000 acres, and that of Ireland only to about 14,600,000. There are in Ireland, therefore, about five agricultural labourers for every two that there are for the same quantity of land in Great Britain. It is stated by the commissioners, with respect to actual produce, that the agricultural produce of Great Britain is more than four times greater than that of Ireland; that agricultural wages vary from 6d to 1s a-day; that the average of the country in general is about 8½d.; and that the earnings of the labourers do not amount, on an average of the whole class, to more than from 2s to 2s 6d a-week, or thereabouts, for the year round. The number of persons in Ireland out of work and in distress during thirty weeks of the year is estimated by the commissioners at not less than 585,000, and the number of persons dependent upon them at not less than 1,800,000, making in the whole 2,385,000.

POSTPONEMENT OF RENTS.—The following is an extract of a letter from Lord Blantyre's Factor, received by one of the tenants on the estate. The lateness of the harvest will render this timely and considerate postponement an exceedingly desirable measure:—"In order to give the tenants a little more leisure than is usual to prepare for the Martinmas collection, which the extraordinary backwardness of the season renders necessary—I wish to let you know, that the day of collection for this term will be postponed till towards the end of December; and I will thank you to let the other Cardonald tenants know, at your earliest convenience, that they may have any advantage arising from the delay.—*Perth Courier*.

CURE FOR THE TIC DOLOREUX.—Take five grains of aconite, and rub down into an ointment with five drachms of cerate; then apply a small portion, on the top of the fore-finger, over the track of the painful nerve, and gently rub for half a minute, or longer, according to the degree of pain, either once or twice in the day. This prescription has been recently applied in several cases, with the most astonishing success. Mankind, it is said, are indebted to Dr. Turnbull for the discovery of this important medicine,

S. P. G.'s THEORY OF THE FAILURE OF THE TURNIP CROP.

Sir,—Your paper of the 14th inst., contains a reply to my observations on your Derbyshire correspondent S. P. G.'s theory of the failure of the turnip crop, and likewise some remarks on my assertion that the lady-cows, so far from destroying the cabbages, were the natural destroyers of the insects which did. With regard to the latter part of the subject, he makes some unmeaning expressions, which he evidently mistakes for wit, but as they do not tend to overturn my observations,—nay, as he has not even attempted to deny the facts I proved, I shall make no observations upon them. I now come to the part where S. P. G. and I are more immediately concerned: his theory is, that the cause of the failure is not the smother-fly (*aphis*), but the decomposition of the plants, owing to the drought and un congeniality of the weather, and that the flies are only carrying off the effects. I contend, on the contrary, that the insects are the cause of the failure, and that they do not naturally feed on the diseased juices, but on those of the healthy plant, and here we are at issue. It is evident, that to substantiate S. P. G.'s theory, it is necessary to prove, 1st.—that the plants had decomposed previous to their being attacked; and, 2ndly—that the insects do not feed on the healthy juices. Now, I think I shall have little difficulty in proving the reverse of these to be the case. With the state of the weather in Derbyshire, I am of course unacquainted, but he says that “the ground was never perfectly saturated with moisture.” Now, by the way, I can conceive no case so favourable to the decomposition of the plants, as to perfectly saturated with wet, for dryness is unfavourable to decomposition; and undrained land generally shows, that owing to this saturation, the plants are decomposed and destroyed. He next states, that the *cold winds* and *cold rains* promoted the decomposition of the plants; this cannot be correct, for as he afterwards very properly states, “a certain degree of *heat* is required.” Now, I beg to ask, were, or were not, the plants *destroyed* by the drought? If they were not, I ask were they by the rain, or by both? for destroyed they must have been by something, before they could be subject to the laws of *inorganic* matter! If the flies attacked them before they had lost their vitality, they could not be in a state of decomposition, though they might be in a state of disease, but he declares that “the fly never will attack a plant, till it has arrived at a certain state of decomposition, so as to separate the gelatinous, from the fibrous matter.” He however, asserts, that the leaves were covered with a slimy mucus from incipient decomposition, and these plants were invariably first attacked. This, however, proves nothing; it is well known that the ejection of the aphides, called honey-dew, is a slimy mucus, and it is doubtless this which he has observed, and long after the minute aphides had commenced their attack. I should like to know how he can show that the *gelatinous* portion of the plants was decomposed, or how he can prove that *gelatine* exists in plants at all. It will be, so far as I am acquainted, a chemical discovery. Now I would just revert to Yorkshire. After the plants had recovered from the effects of the black caterpillar, they looked pretty well, except such as were destroyed by the wire-worm, but when the aphides came, and not before, their leaves ceased to grow, and assumed a shrivelled and sickly appearance.

Now, as to the second point. He says undoubtedly the flies would have attacked every part of the field, if they had been the cause of their destruction.

This is incorrect; the black caterpillar was undoubtedly the cause of the destruction of the plants, and yet they did not attack every part of the fields, but while the exposed situations were attacked and carried off, some patches in the field perfectly escaped, and yet who would have the hardihood to say, that they were only carrying off the effects of another cause. He seems to cling much to the fact that the flies attacked the exposed situations,—now I repeat, where the plants are isolated and deprived of moisture, they are much sooner destroyed by the insects, owing to their juices being unsupplied by moisture. The experiments of Bonnet, Reaumur, &c. I think are quite conclusive that they feed on the healthy juices only. They kept one of the insects on a healthy plant for months, and it not only lived, but propagated seven generations, which it could not have done, had it fed only on the decomposed juices, any more than a horse could thrive on manure. He states that if the flies had not been more numerous, than in former years, the same failure would have taken place; how then can he account for the fact, that thousands of acres were attacked, and yet survived, and are still a crop? I may perhaps be allowed to state another fact; one of my geraniums was, by neglect, left out of doors one night in summer, and in the month of August, it became attacked by aphides, and soon after looked very diseased; most of the insects died about the time they left the turnips, and it recovered, and is now a healthy plant, and yet I perceive there are two or three still upon it, but not sufficiently numerous, to affect the health of the plant materially. If the plants in a state of decomposition only are attacked, how did it happen that on those plants which were destroyed by the wire-worm, and which in reality did decompose, or “putrify,” no flies appeared? S. P. G. constantly contends that the plants were decomposed before the flies attacked them. Now he should know that before the aphides appear as flies, they are lice, and wingless, and so small as to elude a mere superficial examination, and as he mentions nothing of the lice, the probability is, that the slimy mucus he describes was voided by the lice, before they had attained the winged state, which accounts for the diseased state of the plants before he discovered the flies. I have now one before me so small as to be nearly invisible to the naked eye, on the under side of a leaf, and which I certainly should not have noticed, had I not looked carefully for it. In conclusion, I may remark, that if he thinks I intended to criticise his report he is mistaken, my sole object is to elicit truth, and if he can show me I am wrong I shall be obliged to him, if not, I shall retain my present opinion, and conclude him unable to prove his theory.

Your's respectfully,

Thorpefield, near Thirsk, M. M. MILBURN.

Nov. 21, 1836.

SIZE OF TREES.—In taking the circumference or diameter of the trunks, every forester knows that it would give a much fairer estimate of the timber each tree is likely to contain, to measure it at 3ft. or 4ft. from the ground, instead of at 1 ft.; but the latter mode of measuring being adapted for young trees under 10 or 12 years growth, and our printed return papers having been made out chiefly with a view to them, we have considered it best to avoid any distinction in the mode of taking dimensions, lest it should create confusion.

ENGLAND.—Berks—Quercus? Cedar, at Ditton

Park: 80 ft. high; diameter of trunk, 5 ft.; age, 90 years.

Hampshire—Oak, at Strathfieldsaye; 90 ft. high; diameter of trunk, 6 ft., and of head 69 ft.

Cedar at Strathfieldsaye, 108 ft. high; diameter of trunk, 3 ft., and of head 74 ft.

Hertfordshire.—Oak, at Pashanger; containing upwards of 18 loads of timber.

Cedar: 45 ft. high; diameter of trunk, 2 ft., and of head 42 ft.

Northamptonshire.—Oak at Shipley House: diameter of trunk, 3ft., and of head 171 feet. The Gog and Magog Oaks, at the Marquess of Northampton's contain, one, 1668 cubic feet, and the other 900 cubic feet.

Cedar at Castle Ashley: 80 years old; has a trunk 4 ft in diameter.

Oxfordshire.—Oak at Blenheim: trunk, 10 ft. in diameter.

Cedar, at Oxford in the Botanic Garden; it is 30 ft. high; diameter of the trunk, 1 ft. 3 inches, and of head 27 ft.

Surrey—Oak at Claremont: 76 ft. high; diameter of trunk, 4½ feet, and of head 80 feet.

Cedars at Claremont; 100 feet high; diameter of trunk, 16 ft. Another, with a stem clear to the height of 100 ft.

Sussex.—Oak at Cowdrey: 60 ft high; diameter of trunk, 5½ ft., and of head 103 ft.

Cedar, at West Dean: 64 ft. high: diameter of trunk, 4ft., and of head 80 ft.

Wilts.—Oak at Wardour Castle: 50 ft. high; diameter of trunk, 8ft., and of head 35 ft.

Cedar at Bowood: 60 ft. high; diameter of trunk, 3½ ft., and of head 62 ft.

OPERATION OF THE TITHE COMMUTATION ACT.

We give the following detailed account of the proceedings which took place upon the occasion of commutating the tithes of a large parish in Essex, on Thursday last, in the presence of an assistant-commissioner, on the voluntary principle. The parish is that of Bradwell-by-the-Sea. The rector had previously caused a notice to be put on the church door, and twice in the county newspaper, as required by the Act. There were present, H. Dixon, Esq., of Oxford, assistant-commissioner; Mr. C. Parker, Mr. Spurgen, Mr. Dyke, and other landowners; Mr. Tilson, of Coleman-street, as attorney for the master and warden of Sion college; Mr. Sturge, of Bristol, for the corporation of Bristol; Mr. Druce, of Billiter-square, for the largest individual landowner; Mr. C. Parker, of Chelmsford; Mr. Dean, of Tottenham, land agent and surveyor; and others under power of attorney, forming altogether, upwards of four-fifths of the whole of the landowners. Comyns Parker, Esq., was appointed chairman.

The Rector put in copies of the notices put upon the church door, and copies of the newspaper in which the same notice had been inserted. A map of the whole parish, with a book of reference, made in 1826, was produced by the parochial authorities, who also laid upon the table books containing the rates made for the relief of the poor, church rates, and highway rates for the seven years next preceding the 25th day of December 1835. From these books, &c. it appeared that the parish contains 4,733 acres, whereof 3,158 acres are arable, 1,071 acres grass land, 67 acres woodland, 411 acres homesteads, wastes, and saltings, and 26 acres public roads; that the rated amount to the poor, including cottages under a late revision, as one of the parishes forming the Maldon Union, appeared to be 4,135l 10s, and the average of the whole of the rates for the seven years preceding Christmas, 1835, 941l.

The Rector in a letter to the Tithe Commissioners,

and the several landowners, dated the 5th of November instant, stated,—

“The composition for tithe for the last seven years, with the several occupiers 1329 11 10
 “Amount of poor, surveyor, and county rates, on tithe paid by the occupiers annually on an average of seven years antecedent to Christmas, 1835 138 3 7½

£1467 15 5½
 “The Government and Ecclesiastical annual charges on the tithe are— £ s. d.
 Land-tax 66 4 5
 Tenths 4 17 8
 Visitation fees, average 1 10 0

£72 12 1
 “The Government and Ecclesiastical charges I have paid as titheowner; and the amount I claim subject to all these charges and outgoings is 1,600l per annum.
 (Signed) “THOMAS SCHREIBER.”

From these data the commissioner proceeded to ascertain the amount of the rates, taxes, and assessments, properly chargeable on the tithe, for the last seven years to Christmas, 1835, and which proved to be as stated in the rector's letter.

The commissioner announced that beyond giving his opinion and advice upon questions before the meeting, his occupation as commissioner under the voluntary settlement clauses of the Act, would for the present cease. The chairman then directed the attention of the landowners and their agents present to consider the proposition made by the rector, in his circulars before referred to, and also what offer under the circumstances, they were inclined to make to the rector. It was inquired what amount of deduction had been made from the composition of 1,329l 11s 10d, when it appeared that the rector in 1829 had made an abatement of 50l per cent., in 1830 none, in 1831 25l per cent., in 1832 none, in 1833 15l per cent., in 1834 20l per cent., and in 1835 15l per cent., amounting upon the average of the seven years to near 18l per cent., or 240l, leaving a clear composition of 1,090l. It was also thought that the average of the poor, county, church, and highway rates for the last seven years should be reduced for the future, since there could be no doubt that the operation of the new poor-laws, the payment by the Government of so large a proportion of the county rates out of the consolidated fund, the probable abrogation of church rate, and the total removal of statute duty on the highways, would so much reduce the amount of the outgoings on the tithes that two-third parts of the former rates might be considered ample as an allowance for the future, to say nothing of the great saving that must arise to the rector from the not having to support extensive farm buildings and other accommodation, suitable for the taking of tithe in kind.

The Chairman having recapitulated this view of the case to the rector, the reverend gentleman, in a manly and eloquent appeal, contended that, although he had from the general pressure on agriculture, and his sympathy for his parishioners, declined to enforce the composition which had existed for nine years, it did not follow that he should extend that feeling to the landowners; but that he might not be thought to want proper feeling and respect for them, he would at once give up 9l per cent. for the future of the 18l per cent which he had heretofore allowed to the occupiers. On the other hand it was contended on behalf of the landowners, that it was notoriously true that the tithes of this parish per acre, were higher, and the rents lower, than in any other in the kingdom; and it was also asserted that within a few years every farmer, with the exception of two who occupied their own estates, had failed. It was further contended that the clauses of the Tithe Commutation Act authorised the adoption of the reduced composition, and that the sum actually received by the rector, for the seven years previously to Christmas, 1835, was that contemplated by the Act as the criterion upon which the commutation was to be made.

In this stage of the business the Chairman requested

the Rector to withdraw for a short period in order that the parties present might confer together, and the chair having been desired by a gentleman to ask the commissioner his opinion upon the question at issue, said he thought that upon an appeal to the board of commissioners they might not think it just to visit upon the rector, in perpetuity, the whole of the deductions which he had made from the composition to the occupiers; to which the same gentleman replied that the Act appeared to be imperative on that head—when the commissioner intimated that though that might be the case, still the commissioners had the power of employing 20l per cent. to meet cases of hardship arising from excessive liberality or otherwise, and he thought no one could say that an abatement of fifty per cent. in one year, which had actually been made in 1829, was not liberal in the extreme.

The meeting after much deliberation, came to the resolution of offering 1,300l per annum, out of which all rates, taxes, and assessments whatsoever, parliamentary and parochial, should be paid; and the chairman having communicated the offer to the Rector, he at once agreed to accept it.

It then became necessary to ascertain, by the last rate made for the relief of the poor, what proportion those present, and assenting to the proposition, bore to the whole amount of the property rated in the parish; and it appearing that the owners of more than two-third parts of the whole were assenting, and therefore that the remainder were concluded by the arrangement; and an agreement to that effect having been drawn up and executed by all the parties present, the meeting adjourned to the 10th of December, to meet at the same place and hour, in order to complete the schedules necessary to be attached to the agreement previously to transmission to the title commissioners in London, and to make arrangements for dividing the rent-charge among the several proprietors, in proportion to the quantity and quality, taken together, of their respective estates. Thus, then, in the short space of six hours was this important question entered upon and set at rest, proving how much is to be done when men of business unite in a proper feeling towards each other, and a respect for the occasion that brings them together. May the same good feeling and respect be united among those who have to perform the like offices in other parishes, and be the means of converting that into a blessing which for ages has been a curse to this country.

TAUNTON AGRICULTURAL ASSOCIATION.

The Annual Exhibition of Live Stock took place on Friday, Nov. 25, in a Yard in Castle Green, Taunton, and the Stock exhibited was of the first description.

The following extracts from the speeches delivered after dinner will be found to contain matter possessing considerable interest to the agriculturists.

The CHAIRMAN said he would now propose the health of two of the most hard working *servants* of the county; he should have been pleased if he had had to preside over an agricultural meeting of the whole county of Somerset, he should then have had the pleasure of proposing the names of four gentlemen. He would now give "The two Knights of the Shire, Messrs. Sannord and Tynte."

Mr. SANFORD felt sincerely obliged for the kind manner in which the toast had been accepted, which had been proposed by his worthy friend. It was highly gratifying to him to think he had been able to devote himself to any service he could render to the county to which he felt so much pleasure to belong. (*Cheers.*) It was a subject of great regret that he did not see his honourable colleague present; he fully anticipated meeting him there. He (Mr. Tynte) had mentioned to him two days before that he should be at the meeting on the 25th, and his worthy father had been there fully expecting him; and he (Mr. S.) could only attribute it to some unavoidable accident that prevented

him from attending so pleasant a Society. He (Mr. S.) heartily concurred with the worthy President in the propriety of excluding political subjects from meetings of that description. (*Cheers.*) He thought he might be allowed to trespass a few moments to congratulate the agriculturists of Somerset on the degree of improvement in their present prospects as compared with those of the last year. An investigation had taken place by the legislature into the state of agriculture; he would omit the political part of it; but he thought something had occurred which was interesting to agriculturists; and which he would in some degree bring to their notice, more particularly as the hon. Chairman had proposed for a premium to the committee for one particular kind of plough; and he begged to state, that it had come under the investigation of the committee to which he (Mr. S.) belonged, and he believed it would prove of great advantage to agriculture if generally known. The plough he alluded to was invented by Mr. Smith, of Deanston, which had been found very advantageous, particularly in clay soils. The plough was called the "Sub-soil Plough." Its object was to bring up the soil below that in which it was usual to sow grain; which he believed in this part of the country was called *Meter* or *meature*. This plough was for breaking the clod below the Meter, rendering it light, and entering the surface matter; the surface water is not kept as it is now, in the upper soil of clay land, but is allowed to descend, and act as a drain on the *Meter* soil that is above. The object is to render more light, and to drain the water from the upper soil, which checks the vegetation of the seed when sown in it. He (Mr. S.) was very much disappointed in not being able to get this plough for public inspection; but he hoped before the general meeting in March to be enabled to place such a plough before them, when they would have an opportunity of trying it. And by way of encouragement he would say from all the investigations which had taken place, and from the examination of Mr. Smith before the Agricultural Committee, the advantage to persons connected with clay soils who adopted this plough appeared to him to be beyond doubt. He should propose that in March the plough should be exhibited, and he hoped by that time twelve months its merits would be appreciated. And if the committee had no objection to do it, instead of his offering a premium for a fat bullock, he would offer a premium to the person who should bring into operation Mr. Smith's plough. There was another subject well worthy of consideration; that was the cultivation of flax in this county. He was aware that there was a considerable prejudice among landlords against the growth of flax. He used to think flax was much more hurtful to land than he did at present. It was well known that it had always been stated that from flax there was no return to the land for what was taken from it. He thought that a calculation should be made whether that defect could not be remedied. He intended to propose to those, with whom he was particularly connected, that they should be allowed to grow a certain quantity of flax; and for the quantity they grow they should consent to consume a certain quantity of oil cake, and he thought the manure which would otherwise be wanting in consequence of the flax, would thus be restored to the farm. He made this observation from having ascertained that an enormous quantity of flax seed was sent from this county. There was a flax mill in the neighbourhood, and he should be glad to learn whether those mills were now employed in crushing flax or not, as he was not aware. Flax seed had been exported from this county, and much had been carried to Evesham, and a great quantity of oil cake had been brought back from Worcestershire, and consumed in this county by the bullocks. It is a matter well worthy of consideration as the land in this county was well adapted to flax; and not only does it produce a good crop, but it gives a great quantity of labour during the winter season to in-door labourers. (*Cheers.*) He had heard that the manure produced from oil cake was very much stronger and more beneficial to the land than any other

manure. That subject had come under the consideration of the committee to which he belonged. He need not enter on the results of the committee, because that would be considered in a degree touching on politics, which should always be avoided as unanimity was greatly to be desired on such occasions as the present. (*Hear.*) The hon gentleman after congratulating the Association on their increasing prosperity, said he hoped they would still go on, to use an old English sentiment, with a long pull, a strong pull, and a pull altogether. He would now propose a toast which he was certain would be very agreeable to the feelings of the company, and would be received in a manner equally as gratifying to their feelings as it was to the feelings of the individual who gave the toast; he begged leave to propose the health of as true and consistent a country gentleman as ever lived—"E. B. Portman, Esq., their President." This was drunk with three times three.

The CHAIRMAN rose and said—I can assure you it is with no common feeling of satisfaction that I offer you my best thanks for the kind and hearty manner in which you have received the toast which your worthy representative has proposed to you. I am sure, gentlemen, there is no occasion in which I feel more happy, than when I meet an agricultural party like this, having nothing before us but the prosperity of the land we live in.—(*Cheers.*) Gentlemen, it is the duty of the individual, as I humbly conceive, who is president for the day, to make himself in some small degree useful in your service; therefore I shall take the liberty of intruding on your time for a very few minutes upon a few agricultural topics. (*Hear.*) We have been told by very high authority—by the leading men of learning in the world, and by a Committee of the House of Commons, and I will refer you to the last sentence of that report; Lord Ashburton when asked what legislative measures could be useful to the agricultural interests, replied, "The only thing that can be useful to you is to tell you honestly that parliament can do nothing for you." (*Hear.*) Therefore, having this authority, we must turn to our own resources, and having been told honestly and plainly, it is our duty to assist each other by the means within our power; and those who are well informed ought to tender their instruction to those who stand in need of it. We should endeavour to arrive at a just knowledge of the value of the land we cultivate, so that when the tenant comes to meet the landlord to adjust old rents or arrange for new, they should know something about the bargains they are about to make. Instead of answering "I think 45l too much, I can only give 40l," without being able to aduce a reason, betrays ignorance and shews the individual has not applied his mind to the subject, and knows not whether this sum or that be correct, or whether he has the means of paying it. Suppose a tithe-owner should take advantage of the voluntary commutation of tithes within the two years before he should be compelled to make a bargain, both the tenant and landlord ought to know what they are doing. The landlord, if he wishes to improve his farm, must grant the tenant a lease for a certain time, and encourage him, and enable him to improve his farm. (*Hear, hear, and cheers.*) Thus as great fluctuations may take place during a lease of twenty years, the safe way I think for both parties to make their bargains is to fix a sum of money, so that when the prices of the commodity, the fair produce of the farm just adopted, fluctuate only between a given maximum and a given minimum, that is to be the rent; when they exceed the maximum or fall below the minimum, there ought to be a per centage attend by both parties. (*Hear.*) By this plan the landlord would protect himself, and the tenant would also be protected. We cannot hope without some such course to see anything regular. After the bargain is made you try all you can do to improve the land; and in order to improve the land you must drain it. I have brought down a plough to drain hard cloggy soils, and I propose to give a premium of 10l next year to the man who shall make the best use of it. The next step to draining the land to improve it is to make use of the plough to which Mr. Sanford has alluded, invented by

Mr. Smith of Deanston. The great advantage of that plough is to make the sub-soil more porous with air, that the water may pass through it. These are matters for the tiller of clay land to consider, that while they put themselves in a position of improving the land they may improve their own condition also. (*Cheers.*) It may be said "it is very well for clay land, but what is to be done with the turnip land?" I will suggest to you a simple mode of relieving the land from the great enemy, which you all know has for the last two years made ravages in your turnips (the *Tenthredo*) commonly called the *black army*; a great many schemes have been tried to destroy that black army which have failed. I will take the liberty to tell you two plans which have completely succeeded. (*Cheers, and hear, hear.*) These plans are as simple as effective. The Chairman here described the plan adopted by a friend of his, who had discovered that the insect was deposited by a fly. In the month of June he saw a black fly in great masses, and they always flew round a particular space, hovering like the beetles you see over a brook, so easy are they to be seen; immediately he saw this fly he went to his bailiff and ordered him to get some fine gauze, like a *bat net*, (similar we suppose to a bird bating net) and set two women to walk over the field, who enclosed a vast quantity of the fly; he promising them some reward per dozen, he counted 10,000, but there were so many that he engaged to pay for the rest by the lump. (*Laughter.*) The consequence was that his field was perfectly free from the insect, he had a good crop, while his neighbours were devastated by the *black army*. (*Cheers.*) If any of you want to know the fly you may discover it in a book on insects; you may search there for a sketch of it. In "Elwin's Insects" there is a drawing of it. The observation he makes on it is this:—"This is the fly which lays eggs, whence comes a caterpillar, which in 1761, in the most extraordinary manner, eat up all the turnips in the county of Middlesex." The second plan recommended, if the caterpillar came into life, was to let in a large quantity of ducks over the field. The Chairman had successfully tried the use of the flax seed, but instead of using oil cake, he boiled a quantity of it with oatmeal, wheat, or barley-meal, and gave a certain slice of this to them twice a day, and it went twice as far that way; and as a change of food he found that potatoes came in as an extraordinary assistant. He also recommended a more extensive growth of potatoes, and instead of April or May, to be planted early in March, and by keeping them constantly earthed up and keeping the frost from the leaf, would ensure a much more productive crop than if planted later; for by planting them late you allow to pass by the most growing month. (*Hear.*) With regard to stock, some friend of his had recommended to him the crossing of breeds; he, the chairman, was convinced there was nothing like thorough breeds—(*cheers*) he preferred the Devon breed. In referring to the prospects of the agriculturist, the hon. gentleman said he trusted their prospects were of a gradual rather than a sudden increase; and as the prices became higher, he hoped they would become steady, and not only should we endeavour to improve our own condition, but also that of the labourers—(*cheers*)—and see that they should be paid properly for their labour. Before he sat down he begged to offer a toast, which he considered would be very acceptable, it was the health of the gentleman that was to succeed him as the president for the next year. He (the president elect) had done more to promote the interest of the society than any man in that room, and he believed in the whole neighbourhood. I trust I shall be able to come next year and support him as he has supported me this day. I will now propose the health of "J. Gould, Esq." This was drunk with three times three.

Mr. GOULD returned thanks.—He was greatly indebted to them for the honour done him, and he felt the responsibility they had cast upon him in appointing him their president for the ensuing year, especially as he had to succeed so efficient a gentleman as presided that day. It was quite impossible for him to compete with such a man, either in point of the weight of influence which his

property gave him, or by his extraordinary talents: but he (Mr. Gould) would yield to no man in zeal for the prosperity of the agricultural interest Somerset. (*Cheers.*) We have no party views to promote—no object to serve but the good of the country. If popularity is courted by some, I do not desire it, I only desire the good opinion of my countrymen, and the little zeal and talent I possess shall be employed as far as is in my power to follow the example that has been set us this day. He could not help thinking that this county, as a highly favoured county, was exceedingly behind some others; he thought they ought to take a leaf out of the book of the Yeomanry of Northumberland, in paying greater attention to the breed of our cattle. For a man that could make two blades of grass grow where but one grew before, was a greater benefactor to his country than one who produced a monstrous animal, that none could desire and which gave no profit at all. In the yard that day there were some which he thought had cost 2s 6d per lb. Let every man have a fair chance of obtaining the premiums of the society, and let the breed be encouraged that was most suited to our markets, and which would produce the greatest profit to the feeder and the butcher; and which was most beneficial to the public at large. (*Cheers.*) That he considered the great object of their exertions. He thought they ought to encourage the breed of Mr. Wood's species of ram. He hoped a premium would be offered for the best hog ram, and one of any age, and also for a stallion for agricultural purposes. Mr. Gould then referred to the importance of using good seed if a good crop was expected, and not to be prejudiced to any particular mode, but to follow the example of those occupied in trade or commerce, and yield to circumstances, and instead of growing more corn crops, if the farms were kept in better heart the advantage would be apparent. It would afford him sincere pleasure if he could during the ensuing year, suggest a plan to produce better crops at less expense. (*Cheers.*) He was an advocate for regulating his rent according to the price of corn; for if the landlord ground down his tenant by exorbitant rent, he could not keep his farm in order nor pay the rent. In conclusion he begged to give as a toast—"May God speed the Plough and the Agriculturists of Somerset."

Captain W. PINNEY, M. P. returned thanks, and concluded by proposing "the health of the Vice-President."

Mr. HANCOCK returned thanks. He was happy to see that there was a prospect of benefitting himself and brother yeomen, and he thought they should again raise their drooping heads. Some allusion had been made to the flax seed oil cakes. He had tried them for two years; and he considered the best method was to grind them down, because that when thus ground it would take up all the oil, and it may be reduced down by grinding with it some very clean wheat dust. With regard to the quantity of flax to be grown, he did not think, taking the average of the land in the neighbourhood, even the best soils, taking 100 acres, you could sow more than six or eight acres of flax, allowing a proper proportion of meadow, pasture, and arable. He agreed with a former speaker, that it would be beneficial to sow flax as it provided much labour in the most severe season of the year. (*Cheers.*)

The premiums were awarded as follows:—

FOR PLOUGHING.

1—To the manager of the plough, drawn by any number of oxen or horses, which should best plough half an acre of land within a given time, two sovereigns, hat and favour—George Webber, ploughman to Mr. Webber.

2—To the second best manager, two sovereigns—Thomas Birch, ploughman to Mr. Birch.

3—To the third best manager, one sovereign and a half—John Raspey, servant to Mr. Bult.

4—To the fourth best manager, one sovereign—Charler Wright, servant to Mr. Bond.

5—To the best manager who has won the first premium at any former ploughing, not having before won this premium, two sovereigns—James Hanning, ploughman to Mr. Miles.

TO LABOURERS IN AGRICULTURE.

1—To the man who shall have supported the largest family by his own industry as an agricultural labourer, three sovereigns.—John Cross, labourer to Mr. Akerman, for supporting a sick wife, and five children.

2—To the agricultural labourer who shall have supported the largest family with the least parochial assistance, two sovereigns.—John Stacey, labourer to Mr. Chard.

3—To the man who has worked the longest period on any farm occupied by a subscriber, one sovereign.—James Haines, for forty years servitude with Mr. T. Danger.

4—To the agricultural servant man, who lived with a subscriber the longest period with a good character, one sovereign.—Edward Tassil, servant to Mr. Thomas Danger, 16 years.

FOR CATTLE, STOCK, &c.

1—A silver cup, given by E. A. Sanford, Esq. M.P., for the best fat ox, of the owner's own breed and feed.

—To Mr. Thomas Culverwell, of Durleigh, near Bridgewater.

2—A silver cup, given by C. J. K. Tynte, Esq., M.P., for the best cow and off-spring, the cow having been bred by the owner, and the calf fallen since Nov. 27, 1835.—To Mr. Thomas Pratt, Staplegrave.

3—A premium of five guineas, for the best fat ox, or steer, in proportion to age and time of feeding.—To Mr. Thomas Bond, Bishop's Lydeard.

4—A silver cup, for the best fat cow, or heifer, in proportion to age and time of feeding.—To Mr. Birch, of Bradford.

5—A premium of ten guineas, for the best bull of any age or breed, to be kept in the county of Somerset the ensuing season.—To Mr. Hancock, of Halse.

6—Premium of five guineas for the second best ditto, with the same restriction.—To R. Mattock, Esq., of Lowton House.

7—Premium of three sovereigns for the best pair of working beasts, owner's own breed, not exceeding five years old.—To Mr. Turner, Enmore.

8—A silver cup for the best breeding cow or heifer, owner's own breed.—To the Rev. W. Wood, of Staplegrave.

10—A silver cup for the best pen of fat wether sheep, not less than ten, and not more than two years old, owner's own breed.—To Mr. James Bond of Heathfield.

11—A silver cup for the best pen of breeding ewes, not less than ten, owner's own breed.—To Mr. Babb, of Ashbrittle.

12—Three sovereigns for the second best ditto.—To Mr. Fouracre, of Durston.

13—Two sovereigns for the best heifer, not more than 22 months old.—To Mr. Thomas Pratt, Staplegrave.

14—A sovereign and a-half for the best boar.—To the Rev. W. Wood, Staplegrave.

15—One sovereign for the best sow.—To Mr. Charles Gibbs, of Bishop's Lydeard.

ESTIMATE OF THE LATE HARVEST, IN GREAT BRITAIN AND IRELAND.

In submitting the result of my observations and inquiries relative to this year's harvest, I venture to hope, that I shall not be deemed presumptuous, if I briefly advert to the very striking manner the subsequent experience of the year co-incided with what was predicted in my last report.

At the period my last report was issued, (October, 1835,) the corn trade was labouring under a depression, unprecedented in its history. The prices of every description of grain were ruinously low, and wheat, in particular, had fallen lower than it had ever done before, for any length of time, since the war. The current reports founded on the luxuriant appearance of the growing crops before, and the crowded state of the

stack yards after harvest, favoured the presumption, that corn had not reached the lowest point of depreciation.

To this view of the subject I did not subscribe, but showed that the appearances of abundance were to a considerable extent deceptive; and, that an increasing consumption would bring down the high estimate that had been formed of the productiveness of the harvest, within, if not under, the limits of a year of supply.

It is only necessary to appeal to the quotations throughout the year, to prove the accuracy of this conclusion.

An increased connexion has this year given me the means of obtaining correct information, from a greater number of intelligent correspondents in various parts of the empire; and, I avail myself of this opportunity, of returning them my thankful acknowledgments, for the readiness with which they acceded to my request for information, and for the pains-taking diligence which they must have exerted in furnishing me with accounts, in which accuracy of detail, and a comprehensive acquaintance with the general bearings of the whole subject of the crops, are equally conspicuous.

The increasing importance of the trade with Ireland, and the powerful effects which Irish produce has upon the English markets, induced me this year, to undertake a personal survey of that country during harvest. I accordingly, made the circuit of the whole island, calling at every port from which corn is exported to England, and extending my survey into the interior, wherever, by so doing, a prospect presented itself of obtaining fuller or more correct information.

A deep feeling of the responsibility incurred, in hazarding a statement, that may in any degree influence the operations of others engaged in the trade, has induced me to defer issuing my report of this year, until the close of the harvest in all parts of the empire, should enable me, in estimating its results, to leave as little as possible to conjecture.

WHEAT.—The price of wheat throughout the whole of 1834, having been disproportionately lower than that obtained for Spring corn, the more discerning farmers, wherever they were not prevented by restrictions in their leases, or by the nature of the soil, directed their attention to the cultivation of the latter, in preference to the former description of grain. There was, in consequence, a reduction to a certain extent, in the number of acres sown with Wheat in the Autumn of that year.

Barley and oats continued to maintain their relatively high prices, and in the Autumn of 1835, the diminution of the breadth sown with wheat, and its probable effect on prices, began to attract the attention of the trade and agriculturists in general. As the value of any conclusions come to, respecting the productiveness of this year's crop, must in no inconsiderable degree, depend on an accurate estimate of this diminution, I have exerted myself to obtain as correct information as possible on the subject.

The diminution of the quantity of land sown with wheat has, of course, varied in different counties, according as the quality of the soil, and the established modes of cultivation admitted of such variation.

In Norfolk, Suffolk, Essex, and Kent, the decrease in the wheat sown was considerable less than in other counties. Taking in the whole of the great wheat growing counties in the South-east and South of England the average decrease may be safely estimated as not under one-eighth. Where wheat is less extensively cultivated the transition to other descriptions of grain was more easy, and a greater proportional reduction of wheat sowing has been the consequence.

Barley and oats, though in somewhat unequal proportions, shared between them the space from which the wheat was displaced; the former crop on account of its being less exposed to competition with Irish and foreign produce, having obtained the preference in most places suited to its growth. It is probable that on some descriptions of soil beans may have also been substituted for wheat.

The appearance of the wheat on the ground, in the early part of the Spring, though it could not be described

as generally bad, yet in many places was far from encouraging. The very wet, cold weather, during the months of February, March, and April, succeeded by unusually cold and dry weather during the whole of May, both checked the growth of the plant, and prevented it from what the farmer calls *stocking*, that is, throwing out several new shoots from the original plant. Hence, except in a few favourable situations and highly cultivated soils, the crop was every where thin on the ground and stunted in its growth. The weather in June was fine and genial, and to this may be attributed the fullness of the ear, and the consequent superiority of the yield compared with the bulk of the straw.

Harvest commenced in the earliest districts in the last week of July, became general about the 10th of August, and the great bulk of the wheat crop was secured in the principal wheat growing counties in the South, before the 1st of September, when the cold heavy rains commenced.

That the harvest was hurried to a considerable extent, both from the corn having been in some cases cut down before it was fully ripe, and in many cases, from its having been carried before it was in a proper condition for the barn or stack yard is generally allowed; and the raw and soft state of the samples of new wheat brought to market at the close of the harvest, and since, tend to confirm this opinion. This may be accounted for on the consideration, that although the weather during August kept up remarkably well, it still, and especially towards the close of the month, partook in some measure, of that unsettled character which induced the farmer to embrace the earliest opportunity of withdrawing his produce from the insecurity of the fields.

Within the limits above mentioned, there was little or no damage experienced from the corn being laid. Whole counties might have been travelled through, while harvest was in progress, without a single acre of laid corn being observable.

The complaints respecting the prevalence of smut have been almost universal, and more wheat seems to have been affected this year with this disease, than at any preceding period for many years past.

Later accounts have tended to correct the very high estimate of the yield, formed upon reports prevalent immediately after the conclusion of the harvest. The superiority of the yield, though at first exaggerated, is undoubtedly considerable, as though the straw was short, the ear was, for the most part, both long and well filled.

The quality of the grain is decidedly inferior to that of the last two years, and barely equal to the average of former years. There will be a great preponderance of secondary and inferior qualities, and really fine samples will be very scarce.

It may not be altogether unworthy of consideration, whether an equal weight of this year's wheat, may not be found on grinding to produce a less weight of flour, than the same weight of the wheat of either of the two preceding years, the qualities of the wheat and flour being respectively the same.

The wheat harvest did not become general in Yorkshire, before the 23rd of August, and none of the crop was secured before the unfavourable weather set in. The condition and quality must necessarily fall far short of the more favoured districts South of the Humber.

What is here remarked concerning Yorkshire, applies with greater force to the more Northern counties, where the wheat may be described as not much above half an average, and that of inferior quality.

The Scotch farmers were not behind their Southern brethren in observing what crops paid them best; and, as their existed fewer impediments in the way of substituting the more for the less profitable article, the cultivation of wheat has fallen off in a much greater degree in Scotland than in England.

The little wheat that was sown in Scotland has turned out very indifferently. In some parts it suffered from high winds in July, which lodged the heavier and brought down the lighter descriptions. The crop upon the whole is thin and light, its condition bad, and its quality impaired by all the casualties that attend a protracted and inclement harvest time.

Along the East coast of Ireland, from Dublin to Cork, there was about one-fourth less breadth of wheat sown than usual, a little more oats, and a good deal more barley. The whole breadth under corn crops, even taking into account the improved lands, is, in the inland counties of the South, and South-east, much under what it was last year. From the high prices which have for some time past been realized for cattle, sheep, and wool, as well as butter, farmers found it more to their interest, to allow such of their lands as were adapted for pasture to revert to that state. An additional cause which has tended more than any other to reduce the growth of wheat in that part of the country, has been in operation for the last year or two in the North of Ireland, where, owing to the failure of the flax crops on the continent, the growth of that article has been revived this year in the whole North of Ireland; in the flax growing country there is not the eighth part of the wheat crop sown there was two years ago. In the West of Ireland, wheat is not much grown, which renders it unnecessary to note any variation, which may have occurred there in the breadth sown.

The wheat crop in the South-eastern and Southern parts of Ireland was, as in the corresponding districts of England thin on the ground, but the ear was plump, long, and well filled. A less proportion was, however, secured before the rains which prevailed throughout the harvest, with even less intermission than in this country. During the six weeks I was in Ireland, with the exception of seven clear days, it rained more or less every day. From the portions harvested before the rains, there may be selected some samples equal in quality to the best of last year's growth, but these will be very few; in the great majority of cases, the utmost that can be said is, that they may not fall much short of an average quality. That much greater portion which had to contend with the inclemency of the season, is unquestionably, greatly injured both in condition and quality. In the West and North of Ireland there was a greater appearance of straw, and in the North especially, owing to the better farming, the crop on the whole will be more productive, but from the lateness of the season, the barley will be much inferior.

BARLEY.—The barley harvest was more than a fortnight later in commencing than the wheat harvest, and was protracted beyond it for a much longer period; so that in the earlier parts of the country where the wheat crops escaped all damage from the rains, a greater or less proportion of the barley was injured, and in the later parts, the barley suffered in common with the wheat, and in a still greater degree.

This crop, with but few exceptions, came to the ear very irregularly, and the same was observable in the wheat, though not to such an extent. In many cases, one-third of the seed did not vegetate till the month of June, and the green ears springing up, both hindered the harvest, and injured the quality of the grain.

With respect to quality, the far larger portion of even what was cut and secured before the rains, is high-coloured and somewhat coarse. There is, notwithstanding, a fair proportion of good quality, full bodied, not much deficient in weight, and which will malt more kindly than many of the finer runs of last year, which, from the great heats, were somewhat steely and intractable. What was not secured before the rains, is in general black or dingy and much stained, though there has been scarcely any sprouting. Even in the most favoured spots of the great barley growing counties of Norfolk and Suffolk, there will be no barley equal in colour or quality of last year's. The difference between late and early sown is considerable, the former being both thin and poor in yield.

Barley, upon the whole, has been a more bulky crop than that of wheat, yet it will require all the increased growth to make this year's crop come up in point of productiveness to that of the preceding year, which, great as it was, experience has shown, was not greater than the wants of the country required.

The barley crop in Ireland is upon the whole abundant. Even where it has turned out worst, in this respect, the deficiency will be compensated by the in-

creased growth. Though the early sown met with a check from the severe drought in June, its quality is in general good and the produce the same. In the West, the quality is inferior with a fair produce, though there is not much grown. In the North, there is also an average produce, but much injured by the rains, both in condition and quality.

The consumption of ardent spirits and malt liquors being rapidly on the increase in Ireland, as well as in the other two kingdoms, the home demand will be greater than usual, so that very little barley can be expected from that quarter to meet the increasing consumption in this country.

In Scotland, very little of the barley escaped receiving damage from the weather. The yield, however, has in many instances, turned out better than was expected. Except on the best cultivated barley lands, the yield will be below an average and the quality inferior. The balance of the barley trade between England and Scotland, being most years against the latter country, will, in all probability, be so this season, and to an extent greater than usual.

The merits of Chevalier barley have this season been less generally acknowledged. Without doubt it has suffered from the same deteriorating causes which have affected the general barley crops. Wherever I have had an opportunity of instituting a comparison, whether in the fields or at market, so far from any falling off being observable, its relative superiority, both in productiveness and fineness of sample, was never more clearly nor more strikingly exhibited.

OATS.—The reports of the oat crops from almost all parts of England are very unsatisfactory. In the early districts of the South there was a light crop uncompensated by any superiority in the yield, and even when secured in good condition, which was not often the case, the quality is variable, the colour indifferent, and the weight not equal to last year's. In the north, and in some of the higher and more exposed districts of the south, the greater part of the crop was not in the ear at the commencement of the cold, wet, and inclement weather at the beginning of September, and continued until a very advanced period of the season, with scarcely any symptoms of ripening. Of the produce of this portion of the crop, harvested at the best under very unfavourable circumstances, the quality can neither be good, nor the quantity any thing approaching to an average. In some of the northern counties, the crop was more bulky, but the yield will not correspond with the bulk.

The earlier accounts of the oat crop in Scotland were apparently very contradictory, but a ready key to this was found, in the fact, that there never was so great a diversity, both as to the time of ripening and the quality of the crop as there has been this season, not only in different parts of the country, but in the same district, and even on the same farm. Had the crop come to maturity more seasonably, the appearances of an abundant harvest were pretty general in most parts of the country. Some early soils may not have fallen much short of the expectations which had been formed of them, but on the middling and the late, cold and inferior soils, the quantity is deficient, and the quality varying only between the indifferent and the utterly worthless.

In the counties of Aberdeen, Banff, and Kincardine, from which from one-half to two-thirds of the whole supply of Scotch oats to the London market is derived, the oat crop was exposed to unfavourable weather from the time it was first deposited in the ground, to the period of its narrow and most providential escape from the rigours of winter, which set in with unexampled severity at the close of a week of very fine weather, which allowed the farmers to secure almost all their outstanding corn. The quality and condition is consequently inferior. The bulk is from one-fourth to one-fifth less than last year. There also was considerable waste in stacking, the grain having been made free by the continual rains, both before it was cut and while it was in the stook—a deduction not limited to this crop, nor to this part of the country—but common to all the crops, in all parts of the empire, wherever they were

exposed to the rains, and not to be overlooked in any general estimate of the productiveness of the harvest.

Though the oat stacks have in this district been generally in the form, known there by the name of, *wind-kilns*, that is, having the sheaves built round poles, so that the stack is hollow within, and has an opening to admit the most drying winds, very little will be in a shipping condition before Spring, unless recourse be had to the Irish system of kiln-drying.

In the counties of Moray, Nairn, and the more sheltered and fertile parts of Inverness and Ross shires, on the borders of the Moray Firth, the crops were both earlier, more productive, and of finer quality than in the less northern counties above alluded to.

In the west of Scotland the oat crop was more backward than in the east, and consequently worse in every respect. Large tracks of oats never ripened, but were cut down and used for fodder. In the north and west Highlands the frost and the snow met them at the commencement of their harvest, and the consequences must be disastrous; a large proportion of their oat crop, which, with the exception of a little inferior barley or bigg, is their only grain crop, and on which they chiefly depend for subsistence, will be wholly unfit for the use of man.

In Ireland the extent sown with oats has this year been greater than usual. The produce in different districts is, as in Great Britain, various in the extreme. Along the east coast, and the more so the farther south, the oat crop was short and thin. In the west, the early sown oats suffered much from droughts in May and June, and the produce will not be large. In the inland and hilly districts the crop was luxuriant, but much of it never came to maturity. In the north a very large proportion is in the same lamentable predicament.

In the east and south where black oats have been cultivated in greater quantity than in former years, a fair proportion was secured in good condition. Here, and in the early districts generally, the quality and produce of both black and white oats will reach an average, but in the late, and, in my opinion fully one-half of the Island may be classed under that denomination, the straw and unfilled husks may reach an average, but the quantity of good corn will be miserably deficient; and, owing to the badness of the weather, more than one half of the whole oat crop in Ireland, exclusive of that which never ripened, and from which no grain will be obtained, was harvested in bad condition, and will be dingy in colour, damp, light, and ill-filled.

In the neighbourhood of Dundalk, Newry, and Drogheda, winter oats were extensively sown, and have answered well. They were all harvested before the rains, and are productive in quantity and superior in quality.

BEANS, PEAS, AND VETCHES.—Beans are upon the whole a defective crop, got in under the most unfavourable circumstances, and in very bad condition. The very wet weather in the spring prevented them in many places from being sown sufficiently early. This, with the cold dry weather which prevailed throughout the whole of May, retarded their growth, and rendered this the latest crop. The consequence was that this crop suffered more from the rain than any other, being the only crop injured to any extent by sprouting, very little of the others being affected in that way. Winter beans, which are cultivated in some districts, are superior in quality, and a fair produce.

Peas, especially maple and grey, are an abundant crop, and were carried in excellent condition. White peas are a partial crop, having in some places suffered from the fly.

Both beans and peas are in Scotland deficient crops, and on many late cold soils are a complete failure. In Ireland they are not much cultivated, and are under an average.

Tares, which are but seldom left to stand for seed, most part of which is obtained from the Continent, are but a moderate crop. They are likely to be sown extensively in the spring, to compensate for the scarcity of fodder, which without doubt will considerably enhance their price.

HAY, TURNIPS, AND POTATOES.—The hay

crop was very light and deficient in all parts of the empire. Rye-grass and clover was the most deficient crop there has been for years, and in many cases below half an average. In England, however, it was for the most part secured in good condition. Meadow hay turned out a heavier crop, but was not all secured in equal condition. In Ireland, where the hay harvest was later, in addition to the lightness and scantiness of the crop, very little escaped receiving damage from the rain, and the greater part is in bad condition. In Scotland, also, the hay was partially injured by the rain.

Clover seed being mostly taken from the second crop, met with a very unfavourable season for harvesting, and on this account, as well as from the scarcity of food for stock, not allowing the farmers to let their clover stand for seed, it is almost a total failure. Rye-grass seed will be also scarce for the same reasons.

In addition to the depredations of the common turnip fly, grub, &c., a new enemy, viz., the *tenthredo* or *black jack*, as this insect is more familiarly designated by the farmers, has this year made very extensive ravages among the turnip crops in most parts of the country. The consequence is, that turnips are as much a failure as they were last year, and the effect which this, combined with the scarcity of hay, will have on the demand for all kinds of spring grain, must be very considerable.

Potatoes are a partial crop, having failed in many situations and districts. The season for taking them out of the ground has been most unpropitious, and it is highly probable that they will be found to have been injured, if not destroyed, by the frost in greater quantities than is yet apparent. In Ireland, at the time I was in that country, the potato crop presented on the whole, with, however, many exceptions, an appearance of abundance, which, from the unfavourable weather since, and the severe frosts to which they have been exposed, will in very few instances be realized. In Scotland they are a fair crop, on fine dry lands, but on middling soils they are a very poor crop, and in many instances a total failure.

They are every where dear, and as good sound potatoes, in all likelihood will be very scarce before they are relieved by next year's crop, a greater advance in price may reasonably be expected.

There is, perhaps, no surer test of a deficient crop than the falling off in the supplies of corn in the months immediately succeeding the harvest, and if the deficiency of this year's crop required to be established by the application of this test, ample grounds for such an inference have not been wanting. The supplies of wheat, and most other descriptions of grain, not only in the three leading markets of London, Liverpool, and Wakefield, but also in all the markets of the country, have been very moderate since the conclusion of the harvest, notwithstanding the facilities which short straw and a tolerable yield afforded the farmer to thresh out his corn for market, and prices continued to rise, with a demand confined till very recently within the strictest limits of the immediate consumption of the time being, and under a pressure for money, which checked if it did not prevent all speculation. The trifling fall in the price which took place on the late alarm, putting a stop for the time to the operations of speculators, may be fairly assumed as the measure of the speculation then going forward, and clearly shews that it was inconsiderable.

The impression so general a short time ago that there are large stocks of old wheat in the country is beginning to give way, to a more rational view of this important subject, and it is now generally allowed that there is at the present time less than an average surplus, for the season of the year, remaining over from last year's crop. It is true, that there may be here and there an opulent and extensive farmer who may hold one or even two year's wheat. Here there is something to strike the eye, and to attract the attention, while the thousands of instances of farmers whose circumstances do not allow of such accumulations, or who may conceive it most to their interest to dispose of their produce at the current prices of the time, which for a farmer is perhaps the best policy, escape all notice and observation. Hence, the erroneous notion of the quantity of old wheat at the beginning of the harvest. The consideration that last

year's crop contributed nothing to the surplus of the two former years, which however great must have yielded to the immense consumption, I may say waste of the last two years, in cattle feeding, distillation, &c., to say nothing of the greatly increased legitimate consumption arising from the increased population, and the substitution of wheaten flour for oatmeal in many districts where the latter before had only been used, and that the depressed prices prevented speculators from holding their usual stocks, might even if insufficient to prove that the stocks of old corn were smaller than usual, at least have caused a more rigid examination of the grounds on which a contrary opinion was based. The rapid disappearance of the stocks of old wheat said to be stored in Ireland, may afford a lesson not to build too much on the calculations of a large surplus, lest our own should disappear in its turn, with equal silence and celerity. Having had some orders lately from the north of Ireland for old wheat, the difficulty I experienced in executing them indicated no abundance of the article here. The quantity of foreign wheat in warehouses in this country is considerably smaller than usual, and the stocks abroad whether held on British account or the property of foreign merchants are also very low.

The failure of the wheat crop in America, necessarily demanding supplies for that country, as well as for other countries heretofore supplied with American flour, added to the fact, that there has not been for many years so great a number of European countries having deficient crops, will create many competitors for the wheat of the north of Europe, and render it procurable, only at rates which will afford no inconsiderable protection to our own growth, in the event of foreign coming into competition with it in our own markets.

Though a more economical use of corn must take the place of the lavish waste of the two last years, still there is no reason to apprehend a falling off in the demand from a diminished consumption, but the contrary. However paradoxical it may appear, many classes of the labouring population, especially the agricultural portion, consume more wheat when it is dear than when it is cheap. Trade and manufacturers continue to flourish. The unfinished lines of the extensive railroads already in progress—the still greater number of more recent projections which have received the sanction of the legislature, and will be commenced in the spring—the erection of Union Workhouses in almost all parts of the country, hold out the promise of full employment to a numerous description of labours.

All things considered, it may be fairly inferred, that in the absence of pecuniary difficulties greater than any yet experienced, the present prices of wheat will not only be maintained, but a greater rise may be anticipated—which will, most undoubtedly take place, if there is not a considerable increase in the supplies, before or about Christmas, and if the appearances of next year's crop are at all unfavourable in the spring, it is not improbable, that wheat may reach as high a price as the present corn laws will allow.

The immense consumption of barley sufficiently indicated by the entire absorption of the whole of the exceedingly abundant crop of last year, of which there was none remaining to meet the new crop, must be inadequately supplied by the barley crop of this year, which though not deficient, is not more than a fair average. Fine malting descriptions are scarce, and will rule high, it being questionable, whether barley of a good malting quality can be obtained in any quantity from abroad. Middling qualities will be in request for distillation, and inferior qualities of all grades are sure to meet with a ready demand for feeding purposes, owing to the failure of the oat crop, and the great scarcity of every description of food for stock of all kinds.

The barley crop will also be drawn upon to a considerable extent to feed the poorer classes of consumers, in those districts in the north of Scotland, where the crop has totally failed.

The stocks of old oats both foreign and domestic were at the close of the harvest exceedingly low. The failure of the oat crop in Denmark, which is not inaptly called the *oat granary of Europe*, must have considerable influence on the foreign supplies; so that with the de-

ficiency of this crop in most, and its total failure in some parts of Great Britain and Ireland, oats at least, if not barley, whatever rise may take place in wheat, will in all probability, retain their relatively superior value.

The abundant crop of peas will not lower the price of that article in the general scarcity of every thing else, applied to the same uses, and they as well as beans will be in good demand, and command high prices throughout the season.

The partial failures of the three principal descriptions of grain in different parts of the empire, will necessarily create a greater activity in the corn trade than has existed for several years, as many transfers and re-transfers of grain will be required, to supply, not only the districts where the crops have been deficient, but also the places which depended on these districts for their supply, which will this year have to come to them through new, and in many cases, circuitous channels.

GEORGE ANTON, CORN-FACTOR.

Nov. 28.

56, Corn Exchange.

THE LATE HARVEST.—ANNUAL REPORT.

NOVEMBER 28, 1836.

Although we have deferred until a later period than usual our harvest circular, still we have not been able to collect all the information we have thought requisite; and must now chiefly confine our remarks to the country south of an imaginary line drawn across the Island, from the mouth of the Humber on the Eastern, to that of the Mersey on the Western coasts. Within that line (with some exceptions, but which do not amount to any thing of much importance in the aggregate) we believe it will be found that the wheat crop will prove a full average one as to number of quarters per acre; but will probably be of 11b to 2lb less weight than the two previous years. Taking the Eastern coast, from the Humber to the Thames, and including the adjacent inland counties, the yield per acre will prove much above an average, and we think we feel warranted in saying the largest for some years past; for though the bulk of straw was decidedly smaller than either of the two last years, the ears were generally much larger, and extremely well-corned, and of the result in quantity we can hardly doubt. In Kent, some parts of Surrey, and some of the Southern counties, reaping was late, the weather very unsettled, and in consequence a good deal of corn of all sorts was partially injured, and will require to remain in stack till next Summer, when it will thrash out in better condition; but still there must be some considerable deficiency in the produce in flour:—to the westward it was an average crop in quantity and quality. In Wales cutting and carrying were much retarded by unfavourable weather. The new corn comes into market soft, of light weight, with some sprouted; but this injury has every where been much less extensive than would have been the case, had we, instead of a cold season, had a close and warm atmosphere. Many of the midland counties have produced fully average crops, both as to quantity and quality; but in other districts the weather was unpropitious, and the result unsatisfactory. Of the counties north of our imaginary line, and of Scotland, we can at present say but little. The weather was for a considerable period very changeable and unfavourable. The harvest was much protracted; a good deal of injury was in consequence sustained, and a very considerable proportion of the crop will be light in weight and of inferior quality and must remain in stack till next summer. The season for getting the seed into the ground last Autumn was very propitious, and the blooming season remarkably favourable over a large proportion of the kingdom—circumstances which could not fail to have produced a general good crop, had the season for maturing and harvesting it been equally favourable.

The BARLEY-SOWING was large; its growth was

very much retarded by drought, and in other respects ungenial weather at the time of its breaking ground, but on the whole it may be termed a fairly good crop, much-weathered in many places, which causes a dark sample and some grown corn : but much of the stained will be fit for brown malt, and little of it but what is very applicable for the purposes of distilling, grinding, and cattle-feeding.

Oats are a deficient crop generally, but where they were early and well-harvested, the quality is very fine ; in other places they are light and stained, but no where much sprouted ; they will weigh from about 38lbs to 43lbs per bushel.

BEANS at one time were thought to be a great crop, but they much disappointed general expectation in their progress to maturity, and though there are not very many which were rendered unsound by wet, yet a considerable quantity is soft, and it will require many months before they will be hard enough for use without kiln-drying.

PEAS more extensively planted than usual ; the crop every where productive, and the quality remarkably fine.

The produce of home grown RAPESEED forms so small a proportion of the consumption, that it is scarcely worth alluding to ; it was generally of fine quality, and the produce per acre good.

WHITE CLOVERSEED was housed in favourable weather ; the few samples we have yet had at market are of fine quality, but the produce will not be equal to an average.—The weather was so unfavourable to the growth and harvesting of RED SEED, that only a little was housed in good order, much totally lost, and the remainder will be very unproductive in quantity, and of very inferior quality. TREFOIL not so abundant as last year, but on the whole a fair crop, both as to quantity and quality. TRIPOLIUM INCARNATUM did not succeed nearly so well, as a green food, last year as previously ; the quantity of seed saved was considerable, and it has sold at a very low and discouraging price. Of old foreign RED CLOVER there was a larger stock remaining on hand at the close of last season than for several years past ; of WHITE but little, and a good deal of trefoil.

BROWN MUSTARD a good crop, and well secured :—WHITE was partially injured by wet, and the yield was not large.

HAY around London was a good crop, and generally secured in very fine order, but elsewhere almost universally a very short produce. There has been very little after-grass, and in very extensive and populous districts hay is already very scarce and dear ; and shipments have been recently made of some importance from hence to the North. The Summer crops of POTATOES turned up of full size, and very good, but the latter growth for Winter stores has been very much injured by the unfavourable weather ; the produce is deficient, and throughout a large extent of country of such quality as to render it very doubtful whether there will not be a very unusual decay in the heaps.—In August there was a very fine prospect for TURNIPS, but they were subsequently so much injured by vermin and weather as to prove extensively unproductive ; and MANGEL WURZEL has done badly. From all these causes there is a greater scarcity of cattle-food at this period than we ever recollect ; and this will, by keeping up the prices of the inferior descriptions of corn, occasion a heavier drain from the wheat crop than usual, and cause a constant large demand for linseed cakes.

Wheat in Ireland is said to be very deficient both as to quantity and quality, and the exportation must therefore be much under an average ; but the oat crops, except in the mountainous districts, where the harvest was very late, are good ; the shipments of this article will be large throughout the season. Most of what have hitherto arrived, are of good quality and condition, though somewhat lighter than last season, but there must be a larger consumption than usual of this grain there, on account of the failure in the wheat and potato crops.

As in the course of last Spring much was said about a less quantity of land being under wheat cultivation than usual, we took a good deal of pains to satisfy ourselves on this point. We found the report confirmed to some extent ; but on the aggregate we do not believe it was to such an extent as materially to affect the produce of the crop. When we can report with more certainty as to the result of the harvest in the English Northern counties and in Scotland we shall again address you on the subject.

RICHARD HARRIS & SONS.

IMPORTATIONS OF FOREIGN GRAIN AND FLOUR INTO THE UNITED KINGDOM.

	Wheat. Qrs.	Barley Qrs.	Oats. Qrs.		Rye. Qrs.	Beans Qrs.	Peas. Qrs.	Flour. Cwts.
From Oct. 1, 1828, to Oct. 1, 1829	1962200	335667	585319					
From Oct. 1, 1830	1432550	136350	490731					
From Oct. 1, 1831, to Oct. 1, 1832	1879689	352633	670910					
From Oct. 1, 1832, to Oct. 5, 1833	479738	144578	50414					
From Oct. 5, 1833, to Oct. 5, 1834	238824	50868	18558					
From Oct. 5, 1834, to Oct. 10, 1835	165004	100902	179867					
From Oct. 10, 1835, to Oct. 10, 1836	67652	93299	113429					
	129659	35818	90932					
From Oct. 1, 1828, to Oct. 1, 1829	90390	15836	69900	461548				
From Oct. 1, 1829, to Oct. 1, 1830	41557	19239	28007	560429				
From Oct. 1, 1831, to Oct. 1, 1832	83315	19239	63301	1671428				
From Oct. 1, 1832, to Oct. 5, 1833	11551	33408	28476	316692				
From Oct. 5, 1833, to Oct. 5, 1834	1616	12645	7163	133542				
From Oct. 5, 1834, to Oct. 10, 1835 .....	..	55401	61647	177306				
From Oct. 10, 1835, to Oct. 10, 1836	31	37594	40421	91153				
	4980	89276	55696	185225				

STATE OF THE CROPS.—ANNUAL REPORT.

LIVERPOOL, 29TH NOVEMBER.

We had prepared the annexed statement of imports early in October, and expected to have written this letter about the middle of that month, as usual for many years past ; but the weather has been *very unfavourable* for the harvest in the northern districts, and in Scotland and Ireland, during the last two months, that we have deemed it our duty to postpone it, for more correct and decisive information as to the result thereof :—and even now, at this late period, we may commence this letter as on a similar occasion in 1816, dated the 4th of December,—“ although some quantity of grain is reported to be still in the fields unsecured, in backward situations in Scotland and Ireland, and even in England, so little can now be expected therefrom, that the general result of the harvest can be but little affected thereby, and longer postponement appears unnecessary.

Since our *annual harvest circular letter* dated 20th

October 1835, we have uninterruptedly continued by a series of letters, *every Tuesday*, our best endeavours to communicate to our friends, candidly and correctly, the transactions in this and in the neighbouring corn markets; making occasionally such remarks therein on the prospects of the corn trade generally, as we deemed likely to be useful;—in those of the last four months, we have regularly recorded the state of the weather, and consequent progress of harvest, the result of which, in *this district*, might have been pretty correctly stated seven or eight weeks ago, but we considered this of less importance to the corn trade; and although by careful observation of the weather, a very good judgment of the crops generally may be formed, even if deprived of *personal* observation, experience has taught us never to adopt *with confidence* an opinion of any harvest too soon after its completion, as under such circumstances, the popular ideas of *deficiency or abundance*, as well as the theoretic investigations of those who may be better informed on this subject, will too often prove exaggerated and deceptive;—we have therefore waited for more mature and extended information from correspondents in whose opinions we have had reason to place confidence, that we might make this letter more useful to the corn merchants, and more worthy of being preserved for future reference.

It is much to be regretted that information on this very important subject should be left to the capricious investigations and estimates of individuals, who, however intelligent and honourable, may too frequently be misled by local prospects or by their own interests, and that means are not adopted by the authority of government for ascertaining the *prospects*, and *actual result* of harvest throughout the United Kingdom *annually*; reports of which might be officially published in the London Gazette, with much public benefit, in the *spring*, and at the *conclusion* of every harvest!

During the whole of this year the weather has been very irregular and unseasonable;—even in the early part of the spring the appearance of wheat was everywhere reported backward and very thin on the ground—but the spring seed time was upon the whole very favourable;—further on in the season there was a prospect of a very late harvest, which afterwards changed to that of a premature and an early one—and it has ultimately proved a little later in its commencement than in any of the five preceding years.—In the counties of England to the southward of us—*partially* in this district—and in the *forward* situations throughout the whole of the United Kingdom, it began about the *second* week in August, and was completed very generally, except in the hilly and backward situations, by the *third* week in September, the weather having been upon the whole propitious; but throughout the north of England—even in the north of this county—Ireland, Scotland, Wales, and the Isle of Man, it commenced two weeks later, and the operations of harvest have ever since been, with the exception of a few days now and then, very much impeded by heavy rains—and sometimes by frost and snow—by which (though little evil has occurred by the crops being *laid*, or by the grain being *sprouted*,) every description of grain has suffered very considerable injury in every respect;—the harvest to the northward of us—and throughout almost the whole of Scotland and Ireland, has been miserably completed; it has proved to their farmers very tantalizing and expensive, and no small portion of their spring grain will never be fit for human food, having been cut in an unripe state.

In the influential corn districts of England to the south of this—particularly in those on the south-east

coast—and in the south of Ireland, (the weather appears to have been pretty favourable during harvest, but although on many farms there, and also in some of the interior counties, wheat never was better in quality and quantity, the general reports are that it is deficient on the whole, in both respects, from the crops of the three last years; and that of all spring grain, although in some instances also of very fine quality, the crops are deficient of a fair average in quantity. In *this district* the crops of all grain are considered nearly a fair moderate average in quantity and quality;—To the northward—throughout Scotland—Ireland—Wales, and the Isle of Man, some portion of their crops has been saved in very good order, but a *much larger part* thereof has been most seriously injured by the very bad weather they have experienced during the whole of their harvest, and besides, from the very ungenial season they have experienced, being coarse, and inferior in quality from unripeness, will prove very deficient in quantity—reported in many instances to an extent hardly credible, and which it is to be hoped will prove exaggerated.

Considering that there has been a very great diminution (estimated as nearly one-sixth) in the breadth of land occupied with wheat this season, in England, Scotland and Ireland, as certified before the select committees on agriculture in both houses of parliament, and that the deficiency of wheat in the northern districts and in Ireland is likely to prove very serious, we unite in the opinion formed by many of our respected neighbours, that the crops of *wheat* of the United Kingdom are under a fair average in quantity and quality, and much deficient of last year;—of *barley, oats, beans and peas*, though in some counties they are said to be of very good quality, reports generally are not very favourable—they also are under a fair average in quantity and quality, and a great deal has been housed in very bad order—particularly in Scotland and Ireland.—*Hay* was saved in due season in very good condition, and of very good quality, but deficient almost one-half in quantity—nor have the second crops made up much for the deficiency—the *pastures* have been very bare all through the season;—of turnips and mangel wurzel the crops are considered almost a failure; and of the very important article *potatoes* reports are unfavourable every where, particularly in Ireland and Scotland, and they are now almost double their value at this time last year.

From most of the kingdoms of the European Continent—particularly from the Northern corn Provinces, although they have been also annoyed by bad weather, accounts are upon the whole favourable of their crops generally, though no where are they stated to exceed a moderate average;—from Canada reports are not so favourable, but all supplies from thence will be attracted to the United States, where a very serious deficiency in their crops of wheat is now *ascertained*, and very little wheat or flour can be expected this season from any part of North America. Since the *1st of January last*, up to this date, the import of wheat from *foreign ports* here has been about 80,000 qrs. and the exports nearly 66,000 qrs chiefly to the United States;—of flour the import has been about 64,000 brls and the export about 84,000 brls.

The stocks of foreign grain and flour *in bond* in the United Kingdom were (from official documents), on the *10th of October last*, 575,532 qrs wheat, 36,791 qrs barley, 243,047 qrs oats, 5159 qrs rye, 44,670 qrs beans, 5649 qrs peas, 96,388 brls flour; of which 140,623 qrs wheat, 2000 qrs barley, 13,280 quarters oats, 11,306 quarters beans, 2739 quarters peas, 86,444 brls flour (exclusive of about 28,000

qrs of Canadian wheat, which we consider as free), were in *bond* in *Liverpool* at that date—chiefly of the old importations, and the flour chiefly sour; and since that period the quantity of every article has been considerably reduced (nearly one-fourth), by actual exports, and by purchases for exportation, or for paying duty thereon. The increase in the value of all grain and flour in *bond* has been recently very great—from 60 to 70 per cent! and very sanguine expectations prevail that the duties will decline so as to relieve all grain from *bond*, and to admit grain from foreign ports in the spring at very moderate—perhaps the lowest duties, even if no interference should occur on the part of Government, by any Order in Council (not very likely), or by any alteration in the Corn Laws—which may now come under discussion in the ensuing session of Parliament;—the averages work very slowly, and are always much below the *real* prices.—Thus, at the average price of 66s for wheat, the duty is 20s 8d per qr, and before this moderate medium general average, on which the duty is almost prohibitory, be fairly attained, by the present mode, the actual price of British wheat will (from careful investigation into former years) have been 11s per 70 lbs in this market for many successive weeks!

By the annexed Statement of Imports, made up annually to the 1st of October, with every personal care, it will be observed there is a small diminution in the imports of wheat from Ireland, but on every other article from thence—even on wheat and flour conjointly, there is an increase, though to no great extent;—of malt and wheat eastways, the import is considerably increased.

Until within the last three months the stocks of free wheat here were rather large, but by the unusual delay in the arrivals of the new crop, the consumption has continued almost entirely on the old, and thus they have been materially diminished, and may now be considered very moderate;—they may still however, at this date (thanks to speculators, those in valuable granaries for the public) be estimated at about 90,000 quarters, (including about 24,000

quarters Canadian, though in *bond*, as the duty thereon is only 5s per quarter)—of oats, oatmeal, barley, beans, peas, and flour, they never were less—and of malt they are very small.

We have again throughout the past year been almost excluded from the markets in Manchester and in the large surrounding towns for the sale of wheat, by the supplies from the east coast through Leeds and Wakefield of a better quality, and at lower prices; but we expect this ensuing season to be able to compete with the Yorkshire supplies more successfully: the advance in prices which has occurred here so rapidly within the last six weeks, particularly in the early part of the present month, and which, though an equally rapid decline occurred ten days ago, has now again been almost fully recovered, enables us to state an increase on the prices at this period last year of 3s 6d to 4s per 70 lbs on wheat, of 1s to 1s 2d per 45 lbs on oats, of 10s to 11s per quarter on malt, barley, beans and peas, of 20s to 23s per 280 lbs on flour, and of 12s to 13s per 240 lbs on oatmeal; and although the recent advance may have been rather too rapid, and by larger arrivals of grain from Ireland we must expect some fluctuations during the winter—from the high value of potatoes, now about 4s per 90 lbs,—the immense population throughout this great manufacturing district being in full employment and with fair wages, the consumption of grain must continue very great for human food—and from the scarcity and dearth of hay, (now 1s 6d per st. of 20 lbs) and deficiency of pasture—for cattle food also; and as there is no hope of any supplies from Canada or the United States, a very confident opinion prevails that the present quotations will be considerably increased before another harvest, and that they will prove very moderate averages for this season.

The supplies of new grain, particularly of wheat from Ireland, and from our own farmers, have hitherto been very small, and the quality appears but middling—we may now expect the imports to increase very considerably.

JAMES SCOTT & SON.

GENERAL IMPORTATION OF GRAIN AND FLOUR INTO LIVERPOOL FOR TWENTY-EIGHT YEARS.

	WHEAT, Qrs.	OATS, Qrs.	BARLEY, Qrs.	BEANS, Qrs.	MALT, Qrs.	FLOUR,		OATMEAL, Sacks, 240lb.
						Bags.	Brls.	
From 1st Oct. 1808, to 1st Oct. 1809.	114,000	460,000	30,000	7,000	11,000	13,000	170,000	
From do. 1809, to do. 1810.	160,000	338,000	26,000	14,000	54,000	12,000	109,000	
From do. 1810, to do. 1811.	137,000	150,000	9,000	8,000	25,000	21,000	23,000	
From do. 1811, to do. 1812.	115,000	205,000	51,000	4,000	20,000	27,000	13,000	
From do. 1812, to do. 1813.	166,000	484,000	72,000	6,000	30,000	52,000	....
From do. 1813, to do. 1814.	211,000	336,000	34,000	17,000	34,000	60,000	....
From do. 1814, to do. 1815.	261,000	359,000	37,000	22,000	50,000	59,000	80,000	
From do. 1815, to do. 1816.	112,000	354,000	46,000	16,000	38,000	37,100	....
From do. 1816, to do. 1817.	218,000	342,000	78,000	15,000	35,000	4,500	520,000	
From do. 1817, to do. 1818.	240,000	417,000	63,700	19,700	43,000	3,000	371,000	
From do. 1818, to do. 1819.	238,966	396,720	65,592	38,326	36,633	35,017	49,606	
From do. 1819, to do. 1820.	344,545	318,505	66,635	18,759	38,202	37,679	127,429	
From do. 1820, to do. 1821.	348,371	366,834	59,902	26,875	44,273	80,194	89,975	
From do. 1821, to do. 1822.	320,863	251,081	43,412	22,214	46,890	71,665	15,031	
From do. 1822, to do. 1823.	332,609	293,802	27,224	23,814	49,047	115,848	5,568	
From do. 1823, to do. 1824.	189,947	382,846	36,412	27,694	50,545	55,292	91,776	
From do. 1824, to do. 1825.	387,082	623,992	49,411	25,795	62,218	97,949	37,101	58,000
From do. 1825, to do. 1826.	325,619	388,277	62,736	22,049	64,904	91,823	17,736	59,000
From do. 1826, to do. 1827.	460,531	499,169	98,807	51,295	55,814	93,038	60,914	48,000
From do. 1827, to do. 1828.	352,298	605,968	56,849	34,563	75,105	163,584	25,881	135,920
From do. 1828, to do. 1829.	435,961	472,147	52,151	25,202	59,979	100,326	156,112	117,000
From do. 1829, to do. 1830.	466,046	446,739	71,341	32,903	50,340	96,605	239,458	112,000
From do. 1830, to do. 1831.	727,443	447,319	69,837	28,918	91,800	82,487	699,910	136,000
From do. 1831, to do. 1832.	484,859	471,857	54,300	27,389	78,689	173,566	81,662	176,800
From do. 1832, to do. 1833.	528,759	379,411	60,600	20,275	79,132	293,665	46,639	210,000
From do. 1833, to do. 1834.	460,814	317,062	60,166	41,026	84,197	270,357	46,437	144,100
From do. 1834, to do. 1835.	350,584	266,049	71,288	27,260	86,441	304,486	14,916	176,820
From do. 1835, to do. 1836.	413,584	259,294	73,840	58,543	112,688	368,097	58,867	218,692

A PARTICULAR COMPARISON OF THE IMPORTS OF GRAIN AND FLOUR INTO LIVERPOOL FOR THE TWELVE MONTHS

Ending the 1st October, 1836, with those during the same period ending 1st October, 1835, distinguishing the Importations of each Quarter.

	WHEAT, Qrs.		OATS, Qrs.		BARLEY, Qrs.		BEANS, Qrs.		MALT, Qrs.		FLOUR, Bags.		O'MEAL, Srs. 240lb.
	Ireland.	Foreign.	Ireland.	Foreign.	Ireland.	Foreign.	Ireland.	Foreign.	Coast.	Ireland.	Coast.	Foreign.		Ireland.
In October, November, and December, 1834.....	85690	4155	7752	3062	16761	13775	5612	662	486	16623	1855	99403	421
And from Canada.....	12400	..	..	..	2116	23025	3748	1154	114	17877	1255	1080	1680
In January, February, and March, 1835	55060	11345	55756	15867	..	..	..	..	..	17877	1255	87397	3449
And from Canada.....	2600	..	..	..	..	..	..	..	..	..	..	720	50320
Total Import from 1st October 1834, to 31st March, 1835.....	140750	15500	133508	18929	18850	36800	9360	7816	610	34500	2540	187300	5670
In October, November, and December, 1835.....	75850	13300	78540	3550	15200	18500	9300	2600	..	19200	1256	121600	1950
In January, February, and March, 1836.....	80872	23569	88709	17375	5160	16308	4951	4300	..	27376	2244	114497	2017
Total Import from 1st October, 1835, to 31st March, 1836.....	156722	36869	167249	20925	20360	34868	14251	6900	..	46576	3500	236607	3947
Increase or Decrease during the first six months.....	15972	21369	32741	1909	1480	1992	4891	5084	610	12076	660	45797	1703
In April, May and June, 1835.....	53340	23816	54414	6915	1752	7092	6309	1693	2790	22660	4863	54886	2760
In July, August, and September, 1835.....	60610	23190	44180	4499	5020	1744	3560	542	580	21200	1378	62300	4302
Total Import from 1st April to 30th September, 1835.....	113950	47006	17478	11415	6772	8836	9869	2285	3370	42860	6241	117186	9246
In April, May and June, 1836.....	52290	43300	84560	16500	3640	7746	3378	5668	13400	32350	5982	69500	20280
In July, August and September, 1836.....	36246	18430	40250	5400	2090	820	1799	1150	7066	23200	1080	62500	33450
Total Import from 1st April to 30th September, 1836.....	88446	61730	124830	21900	5730	8566	5168	6818	20406	55550	7062	132000	54900
Increase or Decrease during the last six months.....	25504	14724	26226	10485	1042	270	4701	4583	17036	12690	321	14814	45620
Total Import from 1st Oct. 1831, to 1st Oct. 1832.....	384585	47579	52395	28522	17009	31391	5900	8829	8337	72924	5765	173566	81662
Do. do. from 1st Oct. 1832, to 1st Oct. 1833.....	421414	34479	72866	47850	18280	42120	200	13620	6655	74090	5042	292665	46629
Do. do. from 1st Oct. 1833, to 1st Oct. 1834.....	344174	39098	77542	30599	22382	35477	2307	15283	8502	82691	1506	270337	46437
Do. do. from 1st Oct. 1834, to 1st Oct. 1835.....	254700	33378	232102	30344	25652	45636	19419	19229	4051	77360	9081	304186	14916
Do. do. from 1st Oct. 1835, to 1st Oct. 1836.....	245168	98599	292069	42825	26099	43374	4376	13718	20406	102126	10562	368097	58867
Increase or Decrease in the 12 months ending 1st Oct. 1836, compared with the preceding 12 months.....	9532	36093	59067	12481	438	2262	4376	190	9667	24796	1481	68611	43951

Besides the above mentioned Imports into this Port from the 1st October, 1835, to the 1st October, 1836, (in which are now included those which pass up this river direct to Runcorn) we have had about 25,000 qrs of White Peas from Foreign Ports, and about 2000 qrs of Peas from Ireland and Coastways.

AGRICULTURAL REPORTS.

(FROM THE NEW MONTHLY MAGAZINE.)

Extraordinary rise of Markets—Difficulty of embracing the whole subject—Effects of Public Opinion on Price, and how it acts, and is acted upon—Examination of the causes which led to the late rapid rise—Statement of the probabilities with respect to Wheat maintaining high price—Current transactions of Agriculture.

All other topics connected with agriculture must give precedence to the extraordinary state of the markets, and the price of wheat which has obtained since our last. They who know most of this complex and most extensive subject will most distrust their own judgment, because they can but be thoroughly convinced how impracticable it is to collect such multitudinous particulars, depending upon so many agents, with any approach to accuracy or certainty; and, consequently, how impossible it must be for any one mind to grasp the facts. We have often remarked on this impediment, and as often cited the irrefutable instance of Mr. Jacob's reports. No man had such facilities for amassing information; and he did amass a prodigious quantity: no man set about his task with more unwearied industry; no man drew his inferences with more disinterested uprightness of intention, yet there was not a single, large, and comprehensive deduction in which he was not absolutely wrong. Events falsified all his calculations in the shortest possible time. After such an example, we are warranted in pronouncing that it is impossible to form any *certain* judgment with respect to the trade in corn, prospectively. We think it prudent to guard all our speculations now and for evermore, with this sweeping reservation, else we might entail upon ourselves the character of *false* prophets, a stigma which we have shown it is difficult to avoid; but by thus protecting ourselves, we hope, at least, to escape the imputation of *wilful* misleading. In truth, we wish to argue all dependent questions fairly, and to leave the deductions to the quiet good sense and calm consideration of the reader.

Opinion often affects the corn trade more than facts, for there is nothing upon which mankind at large is so sensitive as the bread they eat. In times of scarcity, in times of slack employment, and low wages, it forms the greater portion of the subsistence of the labouring classes, and no mean item in the consumption of families. An old friend of ours in the high times, when a great clamour existed for the reduction of taxation, used to say,—"Bring down the price of bread: the taxgatherer comes once a quarter, but the baker four times a-day." Opinion is very much the instigator of price. If the supply is believed to be deficient, the farmer holds, the merchant holds, the miller speculates, and, last, not least, the banker will aid them in their honest endeavours to better themselves, by liberal advances—up then runs price. Reverse the faith: let a superabundant growth be made tolerably sure, and every one is eager to get first into the market, no one will risk a shilling; they buy from hand to mouth; the market is always full, the banker coldly civil, and down goes price. Then comes the inquiry, how is opinion influenced? Much by that most common of all phenomena—the weather; not less, perhaps, by reports from the corn buyers, and agricultural publications.

To come then to our immediate position. This autumn, the weather has been continually precarious, and it follows, that a great incertitude does naturally grow out of this circumstance; and it also affords a wide foundation to build a still greater fabric of doubt upon. The interested are, of course, prompt in the use of these materials and opportunities. Until the end of October, we had seen no *authorised* summary of the state of the harvest, "*The Mark-Lane Express*" of October 24,

contained, however a manifesto from an old-established London firm (Giles, Son and Co., Corn-Factors), of which we shall abstract the paragraph relating to the crop of wheat.

"We consider wheat south of the Humber, above an average in quantity, and the bulk secured in good order, with a great deal of old left over from the former season: the quality and condition of the new crop, as an average, may be pronounced fine, though not equal to the growth of the two preceding years, which were very superior. In the new wheat this season there are many unripe corns, perhaps from the wheat having been cut rather prematurely, or hurried in harvesting, or from the prevalence of an *under growth* of ears, by which means, all did not ripen together; but the yield per acre, notwithstanding the short straw and the generally reported thinness of the crop on the ground, has, in numerous instances, been found great, beyond all former experience. In Yorkshire, we consider wheat a full average in quantity; but the great bulk of the crop secured in poor condition; north of Yorkshire, and throughout Scotland, and all the late districts, we cannot but believe that the crop will prove very unproductive, owing to the wet ungenial weather they have experienced for their harvest,—the last two months with hardly a sunny day,—and that there will, in consequence, be a large drain for the north on the southern crop. In Ireland, the great bulk of their wheat was secured in good, fair condition, and is superior in quality and yield to the two former seasons; but as applied to Ireland, we believe there is something in the general remark of a very diminished breadth sown with wheat this year, (though, as applied to England, we would not build upon such an assertion as a fact, to any extent), add to which, the exhaustion and absence of all stocks of old wheat in Ireland, and we think that country will be troubled to keep its extensive mills moving this season, by its own produce. Under all the circumstances, we now relinquish the expectation of any considerably lower scale of prices for wheat this season."

Now, to what conclusion does this report lead? Why, that, in England and Ireland, the crop was good; in Scotland, deficient. That the old stocks in the former country were large; in the two latter reduced. Was this a statement to cause any the slightest alarm, especially when it was known that of bonded foreign grain there is not less than 500,000 quarters in warehouse? A quantity equal to the average importations of a long series of years, while England did consume foreign wheat; and, of course, a good reserve, since England has, for the last five years, exhibited no want of foreign assistance in subsisting her increased, and rapidly increasing population.

We must look, then, to some other cause than any just comparison of probable demand and supply for a rise so sudden. We should say that the interests of the growers and holders of wheat, and public opinion, were just in that tremulous and uncertain state to invite speculation, and an attempt to strike a great stroke. The first object was to raise the price high enough to set free the corn in warehouse; the next, to take advantage of that rise. If an elevation could once be given to the markets, and a belief of failing crops at home and abroad extensively propagated, the natural consequence would be to excite the cupidity of the holder, and the fears of the buyer, two effects having a reciprocating action. The changeableness of the weather was highly favourable to the design, for the provincial journals of the north recited, from week to week, the injurious delays of wet and frost upon the incomplete harvest of that district. America became a large buyer of European wheat. The potato crop, especially in Ireland, was reported to be essentially destroyed; and thus the

deduction followed, that the consumption of wheat must be greatly increased, with an inadequate supply from every side but England. Price rose, and the quantities at market slackened, inquiries for bonded wheats were made, and some purchases effected. It was industriously sent forth that large orders were sent abroad for foreign wheats; and, that, even on the coasts of the Black Sea, Europe and America must contend for the purchase of their food. The provincial markets responded to these facts and inferences; and, everywhere, the reluctance to sell was in proportion to the desire to buy. In a word, wheat was on the eve of rising to the pitch desired—namely, to the sum which would free the bonded corn, and render up to the owners the use of near a million of capital set fast for three years; and how was this frustrated when it seemed so certain of success? There were those in the provincial markets who perceived that if the importation at a low duty took place, the country would be again inundated with foreign wheat, and the price knocked down for years, through the displacement of the English growth, by the contine: tal: and let it be clearly understood, that a very large quantity is not necessary to this end. The last four years have decidedly shown how nearly equalized is demand and supply even under the continual increase of the population. Even with the reduced stocks which Mr. Jacob, in 1827-1828, concluded must lead to almost positive scarcity, and all but impossible supply, long before the date we have now reached, there has been found not only a sufficiency, but a superabundance. This can only be accounted for by the superior produce of superior cultivation, for the addition of fresh or reclaimed land has not been large of late years. The perception of this truth among country merchants kept down the rising price, and just gave time for the propagation of knowledge enough to stay the final consequence. The eagerness of the best informed of the farmers to get into the market while the price should remain up, brought a fair show of samples, and a large bulk, and down goes price. Such we conceive to be the real origin of the disorder, the rise and the fall. A little time will test the truth of our conjectures.

In the mean while let us endeavour to look into the future probabilities of the trade in corn, by examining the circumstances which must regulate the real and final causes—demand and supply; and to this end we shall place the pros and cons on each side of the account, with a clearness which we hope will enable even the plainest man to draw the balance. First, then, to the causes which are supposed to support the notion of a rise.

1. It has been strongly urged, and is partially true, that the depression of the price of wheat, and the exaltation of that of barley, had operated to induce farmers to decrease the breadth of wheat sown both in the last and present years. These causes, together with the effects of the weather, it is agreed must have reduced the bulk.

2. The Continental and American harvests are deficient—the latter notoriously so, as is proved by the eagerness of the Americans to purchase wheat in Europe.

3. The potato crop, upon which the British Isles place so much greater dependence now than heretofore for subsistence, is injured by the premature frost and continual rains.

4. Ireland thus is likely to become an importing instead of an exporting country for wheat.

5. A less quantity grown in Scotland, and the quantity and quality materially injured by the protracted and unfavourable season for harvest; and lastly, the enormous increase of the consumption, and consequent reduction of stocks, owing to the active state of the manufacturing districts, constant employment, and high wages; and the application of wheat to other objects than the food of man, owing to its very low price.

Of these facts and arguments we may observe, that they are all true in the general; but the question is not as to their general truth, but as to the degree to which they prevail; and for an answer we must refer to the statement of Messrs. Giles, Son, and Co., already

quoted, and other such deductions drawn by persons of competent information. Let us now turn to the contra side of the account.

1. It is ascertained beyond all question, that notwithstanding the increased consumption, and the harvest commencing three weeks later than last year, thus augmenting the consumption of the past year about one-seventeenth part of the whole, there were stocks beyond what used to be considered the average of the kingdom at no very remote periods. This fact, taken with another, that no foreign corn can have been consumed in England for the last three years, proves incontestably that a crop a little above the average will produce *considerably more* than is required to subsist the population. It also follows, that if the harvest of next year take the natural progression of seasons, the demand during the current year will be *less* by one-seventeenth part than that of 1835-36. The probabilities of the stocks being still larger are enhanced by the lowness of the price, which of course led all to hold who were rich enough to hold. In point of fact some farmers have now, in granary, the whole of the last three year's growth, and many those of the last two. It is impossible to compute the extent to which this hoarding goes. The enormous errors of Mr. Jacob's calculations, however, will show that it is much wider than it could be, or had been previously imagined. Nothing, then, but a *greatly deficient* harvest can balance this contingency. The home growth, then (including Ireland and the colonies) has exceeded considerably the necessities of the buyers.

2. That, including the entire period from harvest to the present date, the quantities sent to market are less than during the same interval of 1835. This is rendered probable by the supposition that price would rise, and also by the preference which barley afforded, both tending to tempt the farmer to thrash the latter grain before the former. Again, the period when the farmer requires money for his largest payments—rent, tithes, and yearly bills—though coming is not come, and the show of prosperity may also allure the banker to make advances for short dates—all of which will enable the farmer to hold back his wheat, and throw the supply upon the later markets of the agricultural year. But these considerations are all to be taken, with the allowance, that the time of payment is rapidly advancing, that the farmer will be eager to avail himself of the rise, and push for the advantage: that country bankers must limit their aids by the state of the money markets, and by the demands for capital created by rail-roads and other commercial enterprises.

3. That there are in bond 500,000 quarters of wheat—an amount fully equal to the average demand for a long series of years previous to 1818—ready to come forth the moment the averages shall allow; and, next, that further purchases are already made and making in foreign markets. Nor is it to be forgotten that the virtual closing of the English ports for the last three years must have tended to increase indefinitely the accumulations in the granaries of the Continent. That for these reasons, it is rather the interest of the English grower to keep the price below that which admits the foreign growth at a low duty, than to raise it above that rate, since it is almost certain, that, in such case, there would be, as in 1818, an enormous influx of foreign corn, which would knock down and keep down price for an indefinite but certainly a long period. Should such an event be followed by a very abundant harvest, the consequence might be more ruinous than any hitherto experienced by agriculture in its most disastrous times. Another possible result of high price might be the entire abrogation of the corn-laws—a contingency only requiring some such stimulus to incline the balance already trembling towards free trade, to turn directly and irresistibly in its favour.

4. That the holders of bonded corn would, in the event of the price rising *near* that maximum which frees it from duty, petition to be allowed to obtain the use of their capital so long laid fast on a low duty; and that it would be but just to the merchant, as well as polite towards the grower and consumer, to accede to their requests on the part of the Government.

5. That a high price will necessarily lead to economy,

and economy to diminished consumption—which is, perhaps, more effective than all the other causes put together, for a very little saving at every meal, by so many millions of individuals, must reduce the quantity used incalculably.

So, in our humble judgement, stands the account; and we cannot hesitate to believe that the rise will be compensated by a fall. Indeed, it has already been almost so compensated. The question is, whether speculation will still dare to hazard any future operations. The next few weeks will determine a good deal; but we do not believe there are many who possess the power to influence the markets, who also are likely to be tempted by the very dangerous and uncertain risk of an adventure so full of peril.

The discussion of this moment important of all topics to landlord, tenant, merchant, and consumer, has left us no space for the current transactions of agriculture; but, in truth there is little to note. It is agreed, that on the whole, wheat-sowing has been propitiously executed, and that the appearance is promising. The prices of stock at the fairs have not indicated any serious fears for a deficiency of fodder or turnips. The Associations are every where holding their meetings, with a beneficial effect on the moral feeling of the country—high and low; for the one perceive how advantageous and honourable it is for them to devote themselves to the affections of neighbouring tenants and labourers: and the latter, that they are objects of affectionate interest to those whom God has more amply provided. Tithe commutation is also in fair, if not rapid progression.

GENERAL AGRICULTURAL REPORT FOR DECEMBER.

This month has, in addition to our provincial correspondence, afforded us a greater opportunity than we generally have had, of ascertaining both the economical and political feelings of the agricultural community, which, despite of all theoretical arguments, has a predominant claim to support over all other communities in the British Empire, though it appears to be its liberal desire to act upon the live and let live system. As relates to agricultural meetings, sheep and bullock shows, &c. common honesty compels us to assert, that we conceive the system of feeding, as nearly as possible on succulent food, and corn, is by far preferable to the Smithfield Club's rule, of allowing competitors to feed as they think proper, provided they honestly state the time, and pabulum on which, they have been fed, a system which, though it produces prodigious fatness, cannot fail to make the meat unwholesome, by confining fattening stock so long a time as those over-fattened prodigies require. We know, both from our own experience and that of a considerable number of graziers, with whose systems of feeding we have been well acquainted, that even the heaviest Sussex oxen, which come to as great a weight as those of any other breed in the British Empire, can be as well fattened in the close on hay and potatoes, hay and mangle wurzel, and hay and Swede turnips, as wholesome consumption can require; some of them, so fattened, reaching the weight, by being so fed, from the time they are taken from their pastures in November to early February, of from 170 to 200 stones of 8lbs each.

The agricultural community cannot, we are confident, expect much from us this month, relative to tillage and farm operations in general, further than being informed, that ploughing and stirring of fallows, draining clays and other wet soils, felling and planting coppices and timber trees, carrying out manure for lands destined to be sown with oats in January, destroying mole-hills, &c., are all well in their place. We are, however, happy to state, that

the early lambing season is generally described as having been productive of a fine fall of lambs, and to have a nearly reached an auspicious conclusion; as also that the generality of live farm stock is in a healthy and thriving state, even where it requires a small quantity of fodder. As to green vegetation, both as relates to the growing wheat, turnip tops, seed grasses, pasture and sheep down herbage, &c, the oldest and most experienced farmers consider, that it is wearing a by far more fresh complexion than at the corresponding season of any year, within their recollection.

We regret to observe, that the great reduction which has taken place in the duties on foreign grain, and the overwhelming supplies of cattle markets have been productive of a considerable depression in the prices of both grain, flour, and fat stock; whilst those of hops, wool, hay, straw, milch cows, and good horses, have been about stationary. In store sheep and beasts, as also inferior horses, but little has been doing.

The following is a retrospective statement of the supplies and prices of fat stock exhibited in Smithfield and Islington markets, since the publication of our last month's report.

SUPPLIES.

		SMITHFIELD.			
		Beasts.	Sheep.	Calves.	Pigs.
Nov. 28.	..	2890	18100	165	350
Dec. 2.	..	525	2963	140	315
— 5.	..	3460	21200	170	340
— 9.	..	850	2150	140	320
— 12.	..	5260	21550	250	340
— 16.	..	2785	2650	220	350
— 19.	..	3185	16850	160	340
— 23.	..	525	2100	150	280
— 26.	..	1440	12100	16	40
Total ..		20920	98663	1411	2675
Supply of preceding month. }		15233	99406	1660	3364

Hence it appears, by the foregoing statement, that the number of beasts has increased 5,693; whilst that of sheep has decreased 743; of calves 249; and of pigs 689.

In Islington market, which closed on the 12th, the total number of beasts exhibited, since the 25th of Nov. was 180; of sheep 4,521.

About 11,740 of the beasts which have formed the supplies of the above dates, about a fourth of which were short horns, the remainder in about equal numbers of Welsh runts, Herefords, and Devons, with about 600 Scots and Norfolk homebreds, and a few Irish beasts, have come from Lincolnshire, Leicestershire, Northamptonshire, and others of our northern and north-western grazing districts: the numbers which came up the St. Alban's road being about 6880; up the other northern and north western roads, about 4,860; about 1,770, in not far from equal numbers of Herefords, Devons, Welsh runts, Scots, Norfolk homebreds, and Irish beasts, from Norfolk, Suffolk, Essex, and Cambridgeshire; about 3,950, mostly homebreds, Devons, Scots, Welsh runts, short horns, and Herefords, from our western and midland districts; about 530 polled Scots, by steam vessels, from Scotland; about 900, chiefly prime Sussex oxen, steers, and heifers, Devons, and Welsh runts, from Kent, Sussex, and Surrey: and most of the remainder, embracing some of all the before-mentioned breeds, and about 150 lusty towns-end cows, from the cattle lodges, stall feeders, cow keep-

ers, marshmen, &c., near to, and within a few miles of, London.

PRICES.

Per 8lbs, to sink the offals.

	Nov. 28.			Dec. 26.		
	s.	d.	s. d.	s.	d.	s. d.
Inferior Beef	2	2	2 4	2	2	2 4
Middling, do. . . .	2	10	3 6	2	8	3 8
Prime, do.	3	10	4 10	4	0	4 8
Inferior Mutton . . .	2	4	2 6	2	4	2 6
Middling, do. . . .	2	8	3 0	2	8	3 4
Prime ditto,	3	8	4 8	4	0	5 0
Veal	4	0	5 6	4	0	5 4
Pork	3	2	4 8	3	2	4 8

Here follows a comparison of the supplies and prices of fat stock exhibited and sold in Smithfield, on Monday Dec. 28, 1835, and Monday, Dec. 26, 1836.

At per 8lbs, sinking the offals.

	Dec. 28, 1835.			Dec. 26, 1836.		
	s.	d.	s. d.	s.	d.	s. d.
Coarse and inferior beasts	2	2	2 4	2	2	2 4
Second quality do.	2	8	3 2	2	8	3 2
Prime large oxen	8	4	0 3	6	4	0 0
Prime Scots, &c.	4	0	4 4	4	4	4 8
Coarse and inferior sheep	2	4	2 6	2	4	2 6
Second quality do.	2	10	3 2	2	8	3 4
Prime coarse-woolled do.	3	4	3 8	3	10	4 4
Prime South Downs do	4	0	4 4	4	8	5 0
Large coarse calves	3	6	4 6	4	0	4 8
Prime small do.	4	8	5 0	5	0	5 4
Large hogs	2	10	3 10	3	2	3 8
Neat small porkers.	4	0	4 4	4	4	4 8

SUPPLIES.

Dec. 28, 1835, Dec. 26, 1836.

Beasts	2,340	1,440
Sheep	16,500	12,100
Calves	200	16
Pigs	450	40

By the above yearly comparison it appears that all kinds of prime meat were producing higher prices, on Monday, Dec. 26, 1836, than on Monday, Dec. 28, 1835; whilst the supply of the former market day comprised 900 beasts, 4400 sheep, 184 calves, and 410 pigs less than that of the latter.

The business transacted in store stock, this month, has been very inconsiderable, and even that, at considerably drooping prices.

This month's supply of sheep, like those of many preceding months, have been composed of about equal numbers of old and new Leicesters, Kents, Kentish half-breds, old Lincolns, and South Downs, with a few Norfolk sheep, polled Gloucesters, horned Dorsets and Somersets, horned and polled English-Scotch and Welsh sheep, &c. But few, if any, sheep, have reached Smithfield, this month, by sea, from Scotland.

The sheep which have formed the present month's supplies have come, about equally from our northern districts, Sussex, Kent, Surrey, and our western and midland districts, with not an inconsiderable number from the marshes in the vicinity of London.

A large quantity of slaughtered meat has arrived, in the London carcass markets, from various parts of England, during the month. From Scotland, supplies of it have been but limited.

SOUTH NORTHAMPTONSHIRE.

At the commencement of the harvest here, which was about the second week in August, the crops of wheat in general were light, but on being carried to the stacks were found to go a great deal nearer to-

gether than was expected; consequently it has taken but little time in thrashing, but has yielded a great deal better than expected, though far below an average crop. Barley, which was also very light and very much stained by the unfavourable weather, yields better to the flail than was expected, and is considered rather on an average: the same will apply to oats. The bean crop in general was very badly harvested, and in consequence few have been thrashed; those that have, yielding very badly and almost unsaleable by their softness. The snow which fell the latter end of October greatly terrified the farmer, as his crops of hay were very light, and there being hardly any straw fit for fodder, added to the general bad crops of Swedish turnips, which have (where they were good) been sold as high as 13*l* per acre; consequently, if we have a sharp winter, the poor cattle will fare very badly. The Agricultural Committee that was appointed last session terminated its labours much as was expected in this part of the country, as it was not thought that Parliament had the means of much relieving the farmer, though contrary to the opinions of the Marquis of Chandos and the other would-be-thought friends of the farmer. I entirely agree with what Mr. Hilditch said in his speech at the late Shropshire Agricultural Society's dinner, "that the farmers have too long been deluded by their parliamentary leaders and supposed friends, who have now skulked from the battle;" and who have, it is to be hoped, found that from their landlords, and not from parliament, the almost ruined farmers must seek for relief.—Dec. 12.

NORFOLK.

For three successive years previous to the present, the seasons for sowing wheat were so dry that it was with difficulty the land could be prepared for the reception of the seed; and in 1834 the want of moisture retarded the vegetation of the grain, even to the extent of producing a considerable deficiency of plants; yet in contradiction of the old adage, which says that,

"Wheat sown in the slop,
Gets heavy at top"—

necessarily implying a contrary tendency under reverse circumstances. The late three crops previous to that of the present year were universally abundant. Now, the excess of moisture which has fallen since the conclusion of the harvest, as well as the no small quantity of rain which fell during that period, very much impeded the sowing of wheat this year; and the occasional frosty nights and otherwise cold state of the atmosphere which we have since experienced, tended very materially to check the progress of vegetation, consequently there is a greater breadth of land on which the blade has not yet made its appearance above ground, than we have noticed at the period of Christmas for some years past. Nevertheless, we do not intend to infer from thence that any defalcation must necessarily arise out of that circumstance; for, although the plant is not so luxuriant as we frequently see it, even where it has made its appearance above ground, excepting that which was sown very early, there is no actual deficiency; without, however, taking into the account such lands as have been actually inundated, which fortunately are of no very considerable extent in Norfolk. The late advance in the price of wheat has had the effect of bringing out much of the old stock of that grain. Some opulent farmers in this county were till very lately the holders of a large portion of their wheat grown in the years 1833-4-5, either thrashed or in the straw, but an advance of from twenty to thirty shillings per quarter was too inviting to warrant further speculation, and the result has been that very little old wheat now remains in the hands of the grower. Of the new crop, we believe it is unquestionable that upon our first-

rate soils, the average is equal to that of the three former years; indeed, some few instances of productiveness have come to our knowledge which can never have been surpassed; and even taking the county as a whole, we should esteem the last to be a full average crop. Neither is there any complaint with respect to the barley or oat crops; the former perhaps exceeds the latter in quantity, but the drawback upon the stained barleys, and the high figure to which oats have attained, have materially altered the relative value of the two grains in favour of the latter. Beans and peas were more sparingly cultivated last year than is usual in Norfolk; the former are but an indifferent crop, and badly harvested; the latter somewhat better both in acreable productiveness and the quality of the grain. The turnips which surmounted the ravages of the black-canker, have continued to improve up to the present period; mangel wurzel also turns out a good crop and is well secured, consequently we have heard of no complaint for the want of cattle food; in short, the demand for store beasts in the grazing department, has latterly been so extensive, that it may be presumed no deficiency is anticipated. It seems, however, that the use of artificial food is now considered indispensable, and that prime winter-fed beef cannot be procured without either corn or oilcake; consequently, as the price of the former is too high to be profitably employed for that purpose, the latter is more generally resorted to. The Christmas show of beasts at Norwich on the 17th instant, was remarkably good; those which attracted the greatest notice were two very fine Scots, fattened by R. H. Gurney, Esq.; a pair of beautiful homebreds by Mr. George, of Jashborough; a capital ox, by Mr. Boulton; a pair of Durham oxen, by Mr. Gillett, of Halvergate; and two good homebreds, by Mr. Heath; but a two-shear Leicester sheep, the property of Mr. Ellman, of Winborough, is supposed to have surpassed any thing of the kind ever exhibited on Norwich Hill.

Some few notices of meetings for effecting a voluntary commutation of the tithes have appeared in our provincial papers, but the business altogether proceeds very tardily, from a mistaken notion, we presume, that some alteration will be effected in the bill during the next session of Parliament; not only with respect to several clauses in the bill itself, but also with regard to the mode of taking the corn averages, and of determining the amount of rent-charge to be added therefrom. The farmers conceive that the new system will subject them to a higher annual payment in the shape of rent-charge, than they have hitherto sustained by compounding with the tithe-owner, independent of the bar which it puts to their ever reducing the payment by converting arable land into pasture; a privilege which the cultivators of inferior soils consider themselves the more entitled to in consequence of a similar boon being granted to the occupiers of such land as shall hereafter be transferred from hop-grounds and market gardens, to arable or pasture. We hope and trust that if any alteration whatever is contemplated in the bill, that the very earliest notice will be taken of it after the meeting of Parliament; conceiving, as we do, that no time ought to be lost in effecting a voluntary commutation; and convinced, as we are, that no proper adjustment can be made after the commutation is effected, without putting in force the provisions of the "Act to Regulate Parochial Assessments," a measure so extensive in its nature, that much time will be consumed before the whole business can be terminated.

Norfolk, Dec. 20, 1836.

SOMERSETSHIRE.

The public prints, from one end of the kingdom to the other, have so particularly described the effects of a long continuance of storms and deluging rains, as to render it quite superfluous to say mere than that cattle labour on the fields has for weeks been nearly quite suspended, except on the driest soils. A considerable breadth of land intended for wheat is consequently yet unsown, and unless the weather should continue dry and free from severe frost, it will

be too late for wheat, the exceedingly low prices of which for the last two years had induced the farmers to cultivate it more sparingly this season. This, among other causes, has doubtless had some influence on prices, which, subject almost to weekly fluctuations, have yet advanced considerably since the beginning of October; which advance we think, must be maintained, if Somersetshire be not less favoured than other parts of the kingdom. For besides the number of acres being less than usual, the produce per acre of the last harvest is far from abundant. A prodigious consumption of wheat by an increased population for eighteen months, had greatly reduced the old stock in the beginning of August, when, according to our limited information and observation, the rick-yards, save of some opulent grower here and there, had a very slender store. Add to this the general deficiency of potatoes, owing to the long drought of summer, and the severe early frosts succeeded by heavy rains, with their bad condition when housed, and we shall see reason why bread corn cannot, for some time to come, be at such ruinous prices, as we have lately witnessed. Yet we see no reason to apprehend extravagant prices, for in the genuine wheat soils of the south of England, this grain was harvested altogether in good condition, and with a little frost will be fit for use without the addition of any old. The advance in price will be beneficial even to consumers; for wheat was less sown, and from the certain loss attending its culture, would have soon become so scarce as to occasion actual want of sustenance. The average price in this county does not exceed 7s 6d a bushel, which in years of ordinary fertility is barely remunerative to our farmers. Beans and Barley were partially exposed to rain, though not seriously injured; but Oats in the backward districts were out to a very late period, and have suffered considerably. Mangel wurzel, turnips, and ruta baga have generally failed, yet in some of the soils in the neighbourhood of South Petherton, Yeovil, and Crewkerne, peculiarly adapted to their growth, we have seen good crops, and also abundance of excellent potatoes. The price of sheep have improved somewhat since Michaelmas. Ewes fit for slaughter may be quoted from 4¹/₂d to 5¹/₂d per lb, and good wethers at 6d. Beef of the first quality for Christmas fare has been sold for rather more than 11s per 20 pounds; fair good beef, quite fat enough for economical housekeepers, is sold for 9s; butter and cheese from the shortness of the summer grass are very dear. The sale of wool (as is usual at this season of the year,) is flat and drooping; the growers have little on hand. Notwithstanding canals and railways finding employment for many hands, there is in several parishes a superabundance of agricultural labourers to whom, we are sorry to observe, the farmers give only six shillings a week, with three pints of cider a dry. Can it be fair to reduce their wages at this season of the year, when they want coals, candles, &c., in much larger quantities than during the summer? As the labourers and their families must be supported, we venture to say, if their wages were now raised two shillings a week in money, and the allowance of cider discontinued until Lady-day, great benefit would result both to masters and labourers. The execrable system of paying wages of labour from the poor rates has been fully exposed! it has been an evil inflicted both upon the poor and the rich of such an intolerable and oppressive nature that no right thinking person can uphold it. There is not even a plausible reason for continuing this degradation of the independent labourer to a state of pauperism, for depriving him of the fair reward of his

labour, and thus furnishing him with a plea for dis-labouring. Considered as a question of peace, the farmer is a loser when he does not give liberal wages, for he must support his labourers whether they are idle or kept at work.—Dec. 22.

KENT.

We may now say, that the wheat season is finished, after a very tedious process, owing to the weather, and what is above ground certainly looks well, in general, it has been laid in the earth but a very short time, before it has made its appearance; the quantity sown is much larger than last year, which is owing to the price being somewhat nearly paying the expenses, as every one knows that growing wheat is the most expensive, as very little can be done without manure. Potatoes in some fields were seriously injured by the frost and wet, and the crop altogether by no means a large one, so that we may expect a fair price for this article. The prices of corn have made most of us very busy thrashing, and a very great quantity has been sent to market in this county, which will enable us to pay the bills that are to be paid at the close of the year. Wheat yields as well as was expected, but there are complaints of the barley and oats not answering the expectations formed of them, particularly the oats. Our corn markets have varied but little for some weeks; good dry corn is much sought after, as we have a great deal cold and rough, for which buyers are by no means numerous, with a decline in price. The markets for live stock have, as usual at this season of the year, been well supplied; some very good beasts have made their appearance, and sold at high prices; the same may be said of sheep, and the general run of things have been good. We are sorry to say that there are many complaints that lambs, owing to the quantity of wet weather we have had, have done very indifferently on turnips, and a number of losses have taken place. We have not much doing in hops, with prices much the same for good things, which are scarce; discoloured ones may be bought lower. As the year is just expiring, and as our prospects are more cheering than at this time last year, we may now express a wish that the worst is past, as we certainly have been well tried, having for many years done business at a very heavy loss.—Dec. 22.

STIRLINGSHIRE.

This month has been extremely changeable, as the late constant rains, and snow on the hills, with several frosty mornings, have evinced. The crops on the high and late and inferior soils are about one half still exposed to the weather, and in some places partly to reap; therefore, little benefit can be expected to either man or beast from such crops. They must now, to all appearance, be a total loss. Little, if any wheat, comparatively, has been cut down, either in kersie or dryfield, from the bad state of the ground, and what has been got down, has been done under very unfavorable circumstances. This will be a warning to farmers to sow earlier in time coming, as all the fallow grounds might have been sown had the farmers embraced the first week of September. No favorable time has yet occurred for sowing wheat since the potato crop has been taken up, and little now, it is to be presumed, will be got done till spring. Potatoes taken up after the severe frost are not keeping in the pits, and it is found now, from sad experience, that one half at least will be a total loss, and

in some cases much more. Under these circumstances, that valuable root is about double the price and bad in quality. All grain, from circumstances already stated, has been rapidly advancing in price, but, fortunately, seems rather on the decline for these two weeks past, particularly wheat and barley. Hay still seems extravagantly high, so much of the other fodder being rendered useless. Cattle rather decline in price, as also butcher meat, from the failure of turnips, an overstock of cattle, and other causes. How long this may continue is doubtful. The ground cannot be in a worse state than it is at present for ploughing and draining, and other farming operations. Grain continues soft, cold, and damp, to handle, and much inferior in quantity and quality. Gloomy prospects indeed for the country.

EAST LOTHIAN.

The weather throughout November has been of that description which invariably waits upon the winter of northern latitudes—cold, wet, and variable. Fresh weather prevailed at the commencement of the month, and by the second, the snow storm of the 29th October was completely dispelled, and the weather for some time subsequent continuing favourable, farmers were enabled to secure the outstanding portions of their corn and potatoe crops in better condition than the most sanguine could have anticipated at the date of our last, and we were induced to hope that a portion of the bean and potatoe land would be seeded with wheat, in a favourable state, and at a proper season; but those whose hopes depend for fulfilment on the ever varying climate of Scotland, seldom meet with the wished-for consummation, and it has been thus in our case. Since the 12th of the month, scarce a day has occurred in which rain has not fallen in very considerable quantity; the land has been in consequence completely saturated, and field operations totally suspended; and the proper season for sowing winter wheat having gone by, the greater portion of the beans and potatoes must be reserved for spring wheat or barley. The consumption of the turnip crop has begun both in the fields by sheep and by cattle, and in most instances is enduring very little eating. Sales of turnips have already taken place lately, and still continue to bring good prices, the average price being 12/ per acre Scots.

QUEBEC AGRICULTURAL REPORT FOR OCTOBER.

The general character of this month has been wet and unfavorable to the getting in of the crops. The temperature has been unusually cold. There was some degree of frost on the 3rd and 4th, and snow appeared on the distant mountains on the 7th. On the 11th, the first hard frost occurred; on the 12th there was snow, which again occurred on the 13th, 19th, 21st and 29th, but hardly sufficient at any time to cover the ground, which is now partially bare, and frozen hard during the cold of the 25th, 26th, 27th and 28th. The frost and snow of the 4th and 12th extended so far South, as South Carolina, and Georgia, on the Atlantic Coast, and into the State of Missouri, in the Valley of the Mississippi, throughout the lake countries to Chicago in Michigan and along the Ohio. In Western New York and Pennsylvania, the snow was from one to two feet deep. The Provinces of New Brunswick, Nova Scotia, and Prince Edward's Island, have had nearly the same season as Lower Canada. The cold seems

to have been less severe in the countries which experienced the drought in Spring and Summer, than in those parts where it was rainy. The getting in of the Oat crops was very much impeded by the wet weather; and the frosts which began on the 25th, put a stop to ploughing, and injured the pastures which are now partially covered with the snow, all about a fortnight earlier than usual. The poorer classes have not had a worse prospect before them than at present, for upwards of forty years. Every kind of food is dear, and money scarce. The evil may be said to extend over the whole Continent as far as New Orleans, where flour on the 22nd was from 9½ to 10 dollars per barrel. Those who have agricultural produce for sale, will be benefitted to some extent, but every one must be more or less injured by the general misfortune. The farmers in this part of the country will have to reduce their live stock probably, one-third, to meet the deficiency of fodder during the ensuing winter, and this will be a source of diminished wealth for several years to come. The present high prices will, however, force increased economy and exertions, and a few favorable seasons will restore that state of ease and comfort which formerly distinguished the agricultural population of Lower Canada.

With reference to the potato crop, it is calculated that not a third part was secured previous to the 21st, consequently, a very large proportion of those potatoes that remained in the ground subsequent to that date, must have been greatly damaged by the severe and continued frost. This loss is the more to be lamented, because it might have been prevented, if the crop had been secured in ordinary time, which certainly should never be allowed to be later than the 20th, or perhaps, the 15th of October, under any circumstances of late or early planting, or whether perfectly ripe or not.

The following Table will show the quantity of rain which fell at Montreal in the corresponding months of this year and last.

Quantity of rain which fell in 1835.			Quantity of rain which fell in 1836.				
1 days rain.		Inches	1 days rain.		Inches		
Inches	| 100		Inches	| 100			
April	.....3.....	30	8	Do.	1	12	5
May	.....3.....	50	9	Do.	4	9	12
June	.....4.....	28	14	Do.	1	41	7
July	.....3.....	19	10	Do.	2	70	8
August	.....6.....	21	91	Do.	2	57	9
September	.....1.....	79	11	Do.	1	80	13
October	.....4.....	12	13	Do.	3	13	12
Total in } 7 months }	27	11	80	Do. in } Do. }	16	82	66

A most extraordinary and beautiful heifer, of the short-horned breed, fed by the Rev. Basil Beridge, of Algarkirke, was killed by Mr. Rogers, butcher, of Boston. Numbers of graziers and butchers, who witnessed this fine animal at the slaughter-shop of Mr. R., pronounced her the most beautiful beast ever seen for her age; she being only two years and seven months old, and fed on grass and hay, with the exception of half-a-ton of cake; the following are her dimensions:—Height, 4 ft. 8 in; girth, behind the shoulders, 8 ft 8½ in; length, from but end to the pole of the head, 8 ft. 1 in; from the shoulder top to brisket point, 4 ft. 6½ in.; length of huck to but end, 2 ft. 4½ in.; across the hucks 2 ft. 7½ in.; weighing 76 st. (14lbs to the stone), loose fat 11½ st., hide 6st. 1lb.

RYE CATTLE SHOW.

This show came off on Wednesday, Dec. 14, and was attended by many of the principal agriculturists between Canterbury and Worthing. The exhibition stands unequalled by all former shows of this nature in Rye. The stock was both numerous and of the finest description.

At half past two, a party of 160 gentlemen and farmers, amongst whom we recognised Hon. C. C. Cavendish and H. B. Curteis, Esq. the members for this division of Sussex, E. B. Curties, Esq., M.P. for Rye, Messrs. Selmes, J. Smith, Boys, Darby, and many other gentlemen well known as agriculturists of the first rank sat down to a splendid dinner at the George Hotel, the large room of which was crowded to suffocation. On the removal of the cloth, the chairman (William Holloway, Esq.) proposed the usual loyal toasts, which were drank with enthusiasm.

The Secretary, Mr. E. N. Dawes, then announced the award of the judges as follows:—

FAT BEASTS.

The premium of 8l for the best Ox worked till 1st November, 1835,—to Mr. Samuel Selmes, of Beckley.

The premium of 5l for the second best ditto,—to Mr. Benjamin Blackman, of Hooe.

The premium of 6l for the best Steer under four years old, having lived with young stock till 1st November, 1835,—to Mr. Henry Smith, of Whaltington.

The premium of 4l for the second best ditto,—to Mr. John Stonham, of Udimore.

The premium of 6l for the best Cow five years old and upwards, that reared a calf in 1835,—Mr. Samuel Selmes, of Beckley.

The premium of 4l for the second best ditto,—to Mr. Richard Smith, of Breoe.

The premium of 6l for the best open Heifer, under four years old,—to Mr. John Thorpe, of Pett.

The premium of 4l for the second best ditto,—to Mr. Jeremiah Smith, of Cadborough.

The above Stock was fed without any restriction.

LEAN BEASTS.

The premium of 4l for the best Bull two years old and upwards,—to Mr. Jeremiah Smith, of Cadborough.

The premium of 5l for the best Cow in calf, three years old and upwards,—to Mr. Robert Turley, of Rolvenden.

The premium of 3l for the second best ditto,—to Mr. Robert Turley.

The premium of 3l for the best pair of Steers under three years old,—to Mr. Joseph Payne Fuller, of Laugh-ton.

The premium of 3l for the two best Heifers in calf under three years old,—to Mr. Benjamin Blackman, of Hooe.

The premium of 2l for the two second best ditto,—to Mr. Christopher Thorpe, of Fairlight.

The premium of 2l for the two best Heifers under two years old,—to Mr. J. P. Fuller.

The premium of 1l for the second best ditto,—to Mr. Jeremiah Smith of Cadborough.

The feeding of the foregoing Stock was restricted to grass, hay, and straw, after the 1st May, 1836.

The premium of 5l for the best Kent Ram under three years old,—to Mr. Robert Turley.

The premium of 3l for the best pen of five Kent two-lamb ewes,—to Mr. Thomas Pix of Peasmarsh.

The premium of 1l for the second best ditto,—to Mr. Jeremiah Smith of Cadborough.

The premium of 3l for the best pen of five Kent one-lamb ewes,—to Mr. Robert Horton.

The premium of 1l for the second best ditto,—to Mr. Thos. Pix of Peasmarsh.

The premium of 2l for the best pen of five Kent ewe Tags,—to Mr. Jeremiah Smith of Cadborough.

The premium of 1l for the second best ditto,—to Mr. Robert Horton.

The premium of 2l for the best five Kent two-year old Wethers,—to Mr. Jeremiah Smith of Cadborough.

The above fed on grass only.

The premium of 3*l* for the best Down Ram under three years old,—to Mr. Henry Boys near Canterbury.

The premium of 2*l* for the second ditto,—to Mr. Henry Boys.

The premium of 2*l* for the best pen of five Down wethers, two years old, but not three, to Mr. Tilden Smith of Vine Hall.

The premium of 1*l* for the second best ditto,—to Mr. Benjamin Blackman of Hooe.

The Downs fed without restriction.

The premium of 2*l* for the best fat Sow, two years old or upwards, that had produced one or more farrows of pigs,—to Mr. Henry Freeman of Udmore.

The premium of 2*l* for the best fat pig under two years old,—to Mr. Jeremiah Smith of Cadborough.

The premium of 1*l* for the best boar pig under twelve months old,—to Mr. James Edmonds of Rye.

CHIPPENHAM AGRICULTURAL ASSOCIATION.

The annual meeting and cattle show of this association were held at Chippenham on Friday se'night. The show was most excellent, and it was very numerous and most respectfully attended. The meeting was held at the New Hall, at one o'clock, Joseph Neeld, Esq., M.P., President of the Association, in the chair. The dinner took place at three o'clock at the Angel Inn, when a most excellent entertainment was served up by Mr. Lawes in a capital style. The company consisted of about 120 of the gentry, yeomen, and respectable farmers of the neighbourhood. The premiums were awarded as follow:—

1st Class.—Mr. Hatherell, Bradfield, for bull, cow, and offspring, 10*l*.

2nd Class.—Mr. Young, Bushton, for the best fat ox, breeder, and feeder, 9*l*.

Mr. Salter, Malmesbury, for 2d best fat ox, breeder only, 4*l*.

3rd Class.—Mr. Rich. Didmarton, best fat cow, breeder and feeder, 9*l*.

Mr. Baker, Kingsmead, for the second best fat cow, breeder and feeder, 6*l*.

4th Class.—Mr. Smith, Thornhill, for two best milch cows, bred by owner, 9*l*. The judges remarked that the competition for this premium was excellent.

5th Class.—Mr. Chapman, Wick, two breeding heifers, under 36 months—no competition; the judges, however, took upon themselves to recommend the full premium of 6*l* to be given.

Mr. Beaven, Highway, for two best heifers, under 24 months, bred by the owner, 4*l* 10*s*.

6th Class.—Mr. Brown, Uffcott, for four best Southdown wether sheep, 3*l*.

Mr. Holbrow, Knoekdown, no competition for four best fat long wool wethers; but the judges considered great merit due, and recommended the full premium of 3*l* to be given.

7th Class.—Mr. Toghill, Marshfield, for eight best breeding Southdown ewes, 5*l*.

8th Class.—Mr. Dark, Broughton, no competition for best boar; the judges, however, recommended a portion of the premium to be given.

Mr. Budd, Winterbourne, for the best breeding sow, 2*l*.

FOR EXTRA STOCK.—Mr. Beaven, Highway, for exhibiting a short horn bull, (one year and nine months) bounty of 3*l*.

The breeding sows that were exhibited for the premiums were generally possessed of merit, and the judges recommended a bounty of 10*s* to be given to Mr. Painter, of Hullavington; Mr. Fry, of Chippenham, and Mr. Rich, of Chippenham. The judges remarked that the long-horn bull exhibited by Mr. Holbrow, in class 1, was an animal possessing great merit.

The judges congratulated the society on the improve-

ment made in the show yard, since the last exhibition; and at the same time suggested that were the sheds extended to the opposite side, it would be quite complete.

CHARTHAM AGRICULTURAL ASSOCIATION.—This association held its first meeting on Wednesday, December 7, on which occasion a ploughing match took place in a field at Thruxted Farm, the property of Sir J. Fagg, Bart. The prizes, four in number, were awarded as follow:—1. Thomas Young, ploughman to Mr. P. Mount, 40*s*; mate, 10*s*; 2. Jesse Coleman, ploughman to Mr. W. Weatherley, 30*s*; mate, 7*s* 6*d*; 3. Richard Mills, ploughman to Mr. R. Lake, 20*s*; mate, 5*s*; 4. W. Young, ploughman to W. H. Baldoek, Esq., 15*s*; mate, 3*s* 6*d*. At three o'clock the company assembled at the George Inn, Shalmsford-street, and did ample justice to the dinner, which Mr. Hukins had provided in a superior style.

CURIOUS MODE OF PRESSING CHEESE.—In Drummonds' Agricultural Museum, there is exhibiting a cheese press, from the dairy of Polmaise, which acts on the principle of the air-pump, and from what we have heard, suits the purpose remarkably well. As an appropriate accompaniment to this ingenious machine, a cheese, pressed by means of it, is also exhibited; and that all may be able to judge for themselves, visitors are invited by the donor to taste the specimen of his produce. We have done so, and consider the cheese of first-rate quality.—*Stirling Advertiser*.

ASSES' MILK.—A. M. E. Péligot has laid some interesting experiments before the French Academy of Sciences, concerning asses' milk. He is of opinion that the large quantity of sugar contained in this milk gives it the medical properties for which it is celebrated; and he calculates that 100 parts of asses' milk will contain as follows:—solid substance, 9.53; butter, 1.29; sugar, 6.29; caseum, 1.95; water, 90.47. After trying various modes of nourishment, he found that beetroot made the milk richer in solid substance than any other food; after this a mixture of lucerne and oats, then potatoes, and lastly carrots. M. Péligot also succeeded in impregnating the milk with mineral substances or alkalis.—*Athenæum*.

WHEAT, FLOUR, AND BREAD.—Five quarters of wheat will make seven sacks of flour; consequently, one quarter will make seven bushels of flour, and a sack of flour will make 98 four-pound loaves; therefore an advance in the price of bread of 1*½*d per loaf, allowing the labourer to eat two loaves per week (and few eat so much), or an increase in the price of 3*d* per head per week, is all the addition required between a fair rent to the landlord and remuneration to the tenant; a difference of 3*d* a week to the consumer makes the difference of rent or no rent.—*From the Evidence of Mr. John Rolfe before the Commons' Committee*.

THE DUTY ON HIDES.—The Commissioners of Customs have notified that they have received an answer to a memorial presented to the Lords of the Treasury, who have commanded that the relief granted to the parties importing sea cow hides, elephant's hides, and large deer hides imported from the Cape of Good Hope, is to be continued, and that the same rate of duty be payable as is a charge on ox and cow hides, on condition that bond be given by the importers in case Parliament should not sanction the reduction of the duty, to pay the higher duty of 20 per cent.

REMARKABLE FIG.—On Monday last, a very large hog pig was killed, belonging to Mr. Geo. Darbyshire, coal-merchant, of the Lord Mayor's Walk, York, which weighed 39 stones. The animal was bred by Mr. Holmes, farmer, of Bransby, near this city, who has long been proverbial for breeding pigs which attained enormous weights, as in the year 1834, he bred one which weighed 37, and last year one weighing upwards of 40 stones, both fed by Mr. Darbyshire.

SWEDISH TURNIPS.

TO THE EDITOR OF THE FARMER'S MAGAZINE.

SIR,—As the time is now coming when Swedish turnips have arrived at maturity, perhaps the under-mentioned account will be acceptable to some portion of your numerous readers. Hearing so much of Mr. Hillyard's far-famed Swedish turnips, I felt very anxious to give his seed a trial in Yorkshire; I therefore applied to a friend in Northamptonshire, to procure me a small portion, which I drilled on ridges 25 inches apart, with bone-dust and farm-yard manure, in the centre of a sixteen acre field; the other part of the field with seed, raised in my own neighbourhood, and no difference made as to management, the soil being a stout limestone. As soon as the plants made their appearance, they were attacked with the fly, which seemed very likely to be fatal to them; but by sowing quick-lime upon them, early in the morning, whilst moist with dew, it quickly drove them away, and the weather afterwards being favorable, that part of the field sown with Yorkshire seed, grew amazingly; the Northamptonshire, on the other hand, made very little progress, no kind of weather throughout the season, seemed to suit them.

I am now busy carting them off for winter use, but the difference appearing so great, I determined to ascertain the weight of an acre of each kind, which I found to be as follows:—

	Tons.	Cwt.
Yorkshire	22	5
Northamptonshire	13	1
Difference	9	4

Thus it will be seen, that an acre from the Yorkshire seed produced 9 tons 1 cwt. more than the other; a difference which I am at a loss to account for, unless the land was too cold for seed raised in the rich county of Northampton.

Yet, Mr. Editor, if any of your numerous readers can inform me of any other cause, I shall be greatly obliged, for I am informed Mr. Hillyard's turnips this present year are the best in the country.

I am, Mr. Editor, yours, &c.
AN OLD FARMER.
Near Rotherham, Dec. 10th.

PS. I ought in justice to Mr. Hillyard to have stated, that his turnips are the handsomest I ever saw, but too small and delicate.

THE TITHE COMMUTATION ACT.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—Observing in your paper of last week, some high commendations passed on the Tithe Commutation Act of last session; and which was particularly stated by Lord Darlington, and the Hon. R. H. Clive, at the Shropshire Agricultural Meeting, as a "most valuable and beneficial measure to the farmer," I shall feel myself very much obliged, if you will allow me through the medium of your paper to ask my Lord Darlington, or the Hon. R. H. Clive, or any other of your correspondents to point out in what respects the Tithe Commutation Act is calculated to benefit the farmer.

It may be that I am short-sighted, or wanting in understanding on the subject; but I cannot, after all the consideration which I have been able to give to the measure, see how it is to prove beneficial, either to the farmer or land-owner. But on the contrary, I am one of those who agree in the opinion expressed by your correspondent, Mr. Knight, that it is altogether a parson's bill; and anything but a beneficial measure either to farmers or land-owners. Both I believe, are

cajoled and deceived by it, and will ultimately find it to be a most iniquitous, unjust, and oppressive Act of Parliament.

1. It proceeds on a tithe in kind valuation, without any deduction for expenses of cultivation, charge for seed, or taxes, or outlay for improvement of land.

2. It makes no allowance for a failure or loss of crops by adverse seasons, or otherwise.

3. It fixes the value according to an average price of corn, which is never realized to one-tenth of the farmers in the kingdom, if indeed it even be to a single one among them all.

4. To those farmers whose land grows corn of an inferior quality, and bearing a proportionately lower price than the general average taken—it is most heavily oppressive and unfair.

5. It converts an uncertain, precarious, and always variable demand, into a fixed, permanent, and exorbitant rent-charge, and creates a lien upon the land-owner, unto which he was not before liable, without giving an equivalent by way of compensation for such guarantee.

On the whole, Sir, it appears to me to be an Act, rather to confiscate the property of the land-owner, and the capital of the farmer, than to confer benefit to either. I say nothing now of the injustice of such an act, imposing such a charge on the capital, skill, and industry of the landed interest of the kingdom, from which other description of property are exempt: but I, Sir, contend that such an act ought not to have been passed through Parliament at the time, and in the manner in which that act was passed; and which, the more it is understood, the more it will be condemned.

But if either my Lord Darlington, or the Hon. R. H. Clive, or yourself, or any other into whose hands this may fall, can show the benefit of it to either farmer or land-owner, he will confer a favour on one who stands in the capacity of both, and who is

A CAMBRIDGESHIRE FARMER.

Nov. 30th, 1836.

SMITHFIELD SHEW.

Weight of Cattle and Sheep exhibited at the late Shew, and the names of the Butchers by whom they were purchased.

- The Marquis of Tavistock's Hereford ox, which obtained the first prize purchased by Mr. Slater, Kensington, weight, 215st 2lb, rough fat 22st 3lb.
- Earl Spencer's Durham ox, purchased by Mr. Strachan, Westminster, 218st, rough fat, 27st.
- Mr. Loft's Durham ox, purchased by Mrs. Somers, Somers Town, 232st, rough fat, 23st.
- Mr. Bailey's Hereford ox, purchased by Mr. Cowell, Knightsbridge, 145st 2lb, rough fat, 21st.
- Mr. Giblett's Hereford ox, killed by himself, 236st.
- Mr. Bird's three Leicester wethers, purchased by Mr. Miller, Finsbury, 17st 4lb; 20st 3lb; 21st; rough fat 14lb each.
- Mr. Rowland's three long-woolled wethers, purchased by Mr. Dobbin, Drury Lane, 33st 1lb; 29st 3lb; 28st 4lb; rough fat, 14lb each.
- Duke of Richmond's three Southdown wethers, No. 32, class 10, purchased by Mr. Hancock, 13st 3lb; 14st; 13st 6lb.
- Duke of Richmond's three Southdown wethers, No. 31, class 11, purchased by Mr. Hancock, 19st 6lb; 18st 4lb; 17s 7lb. Rough fat average 3st each.
- Mr. William Poulton's fat pigs, purchased by Mr. Williamson, Lambeth, 11st 6lb; 14st 4lb; 11st 2lb; 12s 6lb.

There is now growing, and ready for cutting, in the grounds of Mr. Hezekiah Collins, nurseryman, at Laverstock, near Salisbury, asparagus, measuring nearly four four inches above the surface of the ground.

THE CORN LAWS.

The rise in the price of corn, the formation of an Anti-Corn Law Association in the metropolis, and the observations reported to have been made by Sir H. Parnell at Dundee, but since contradicted have conducted to a renewal of discussion upon the present system of corn laws, and which will doubtless continue and perhaps be brought under the notice of parliament in the next session. Having been favoured with the sight of a portion of a publication from the pen of Mr. Hillyard, the president of the Northamptonshire Farming and Grazing Society which will be ready for publication in a few days, and which will from what we have already seen of the work and know of the author be found replete with information practically useful to the agriculturist we subjoin the following extract exhibiting the writer's sentiments upon the Corn Laws.

Having the opportunity in this second edition, I make a few brief observations on the able "Remarks on the present state of Agriculture," by Charles Shaw Lefevre, Esq., in a letter addressed to his constituents in North Hampshire. In consequence of the distress which prevailed, it was absolutely due to the agricultural interest to have a Committee of the House of Commons appointed, to inquire into the causes of the distress, and to report, from the evidence which came before them, their recommendations for relief. That the Committee should not have known what to recommend, and therefore should have made no report, could not have surprised any directed to the subject. Mr. Lefevre says he is decidedly in favour of a fixed duty on foreign corn, instead of the present duty, which is fluctuating; but should this alteration not take place, he yields to the suggestion of a gradual reduction in the present scale of duties on importation. This suggestion, it appears, comes from dealers in foreign corn; those who, till within the last few years, carried on a lucrative concern in that article. May it not reasonably be suspected, that such persons may be desirous of regaining their now nearly lost trade? During the last twenty years, I have read so much as to the price that wheat can be grown for on the Continent—on fluctuating duties, and on fixed duties, &c. &c.,—that I mean to read no more on such subjects. After thirty years practical pursuit of agricultural affairs, accompanied by attentive consideration of all matters relating to them—after all I have read—after all the arguments I have heard—I am decidedly against any change in the present corn laws, conscientiously believing them to be most just and fair, the British occupiers of land, with less protection from foreign importation, could not support the labouring agricultural population, pay taxes, and pay their landlords such moderate and fair rents as they are justified in taking. Why a reduction of the duty on malt is to be mixed up with the corn laws, I cannot comprehend. 'Tis true that farmers (from the necessity of giving beer to their labourers), would be more benefited by a reduction of the duty on malt than shopkeepers and many others; but as the benefit which the farmers might derive would not be at the cost of any other class of the people, I do not see why any part of the protection which the present corn laws afford, should be taken from them, on ac-

count of any little extra advantage which they might derive from a reduction of the duty on malt. Mr. Lefevre says, the present corn laws have been a delusion. I cannot answer for what they may have been to others, to me they have been no delusion. The Legislature, at the time of their enactment, contemplated they would be a protection to 60s. per quarter, for wheat; I then told persons of distinction, that I calculated they were only to 56s. The late very low price was no proof of delusion; for in all commodities, if the supply exceeds the demand, as it did last year in wheat, prices must fall. Many most ingenious attacks are continually made on the corn laws by most able writers, employed to fill up the pages of newspapers, and many apparently plausible arguments are brought forward for their repeal. It is said that our ports ought to be open, free of duty, to foreign corn and manufactured foreign goods. I ask, in answer to this, will foreign ports be thus open to British manufactured goods? It is well known that England possesses such vast resources within itself for the purposes of manufacture, that all goods, of any importance, can be manufactured in this country (with the present corn laws), at a cheaper rate than in any other part of the world: English manufacturers, therefore, fear no foreign competition. When it can be proved that it is possible to produce corn at as low a price in this country as on the Continent, then, but not till then, shall I become one of the numerous agriculturists whom Mr. Lefevre wishes may be convinced, "that the best thing which the Legislature can do for them, is to free their trade from the shackles imposed upon it by impolitic laws." I can truly say that it is not on selfish grounds that I wish to retain the present corn laws, but for the welfare of the whole rural population, which forms so great a portion of the British nation. As the mercantile, manufacturing, and trading interests are most powerful in the House of Commons, and united against all corn laws, it would be the height of folly, should there be any disunion amongst the supporters of the agricultural interest, on account of a difference of opinion as to which is best, a fixed or a fluctuating duty on foreign corn. No change in the present corn laws, in my opinion, ought to be attempted, for I am well convinced, should any take place, that it would be disadvantageous to the agricultural interest.

RAIN IN OCTOBER AND NOVEMBER.—We have heard many persons express an opinion that the present season has been the wettest ever remembered; but this opinion is not quite correct, as appears from the following account of the quantity of rain which fell at Manchester in the months of October and November, for three different years, for which we are indebted to the kindness of Dr. Dalton:—

In 1824, October and November yielded	12.4
In 1825.....	11.6
In 1836.....	10.8

These are the three wettest seasons that Dr. Dalton has ever observed at Manchester; so that the present, though not the worst, has only been exceeded by two others during a period of, we believe, more than 40 years.—*Manchester Guardian.*

Very large quantities of potatoes are at present shipped from Havre for England and Ireland. The price there of middling potatoes is from 20d to 22d per cwt., which is considered high; but if the demand for exportation should continue it is expected to be much higher. A brisk export trade is also carrying on in articles of luxury as well as of necessity; turkeys are being sent off to England by hundreds at a time. The price of a moderate-sized turkey is five francs.

AGRICULTURAL INTELLIGENCE, FAIRS, &c.

OXFORD MONTHLY MARKET, held on Wednesday last. The show of stock was superior to any before exhibited at this place. Many purchasers attended, and nearly the whole was sold at the following prices:—Beef, from 4s 4d to 5s; Mutton, 4s to 5s per stone of 8lbs. Amongst the cattle we noticed some very fine Hereford oxen, fed by Messrs. Roberts, of Patford, Cother, of Aston, Druce, of Ensham, Turner, and others; 10 Highland Scotts, fed by the Earl of Abingdon, of very superior quality; several lots of very good heifers, fed by Messrs. Miller, of Water Eaton; Rowland, Hutt, &c. &c. An extraordinary heifer, of the Durham breed, fed by Mr. Wm. Miller, of Water Eaton, near Asford, was shewn, which for quantity and quality of flesh and symmetry, and lightness of offal, has rarely equalled. Amongst the sheep a pen of Hampshire Downs, grazed by the Earl of Abingdon, commanded universal admiration, the best we have ever seen exhibited of that breed; also, a pen of very choice Downs, fed, we understood, by a Mr. Edmunds, near Farringdon, Berks, shown by Mr. Price of Oxford.

FARINGDON MONTHLY CATTLE MARKET.—The supply of oxen and sheep was abundant, and of the very highest order with respect to quality—so much so that the best judges were at a loss to which of the gentlemen graziers the palm of pre-eminence should be awarded. Anxious as we are to avoid even the appearance of partiality, we cannot hesitate to name Messrs. Turner, of Kemscott; Myers, of Langford; Fairthorne, of Camden; Kent, of Bourton; and Nash, of Buscott; as heading the list of the many, who exhibited beasts in the very finest condition, and of the most perfect symmetry. For the best pen of long-woolled sheep, Mr. William Edmonds, of Kemscott, stood decidedly without a competition, and that excellent agriculturist, Mr. Williams, of Buckland, may safely lay claim to superiority for Southdowns. Buyers from every point of the compass were numerous, and even the Dons of Leadenhall-market have discovered, that all the good beef of old England does not find its way to Smithfield. Very few sheep or cattle were driven off unsold, and the prices were such as lent a cheering air of satisfaction to the countenance of the grazier.

EXETER FAIR.—This fair was well supplied with fat stock, which went off well, there being scarcely a beast worth looking at left unsold; prices fetched from 10s to 12s per score, a few good steers brought 10s. Calves were numerous at from 6d to 6½d per lb and good sale. Mr. Force, of Honiton's Clist, had some splendid cattle, grazed by himself, among which was a beautiful ox, the largest in the fair, weighing 16 score per quarter, which was purchased by Mr. Southwood, of Starcross, for 35l; a heifer weighing 46 score, was purchased from Mr. Force by the same person for 35l. Mr. John Pidsley, of Honiton Clist, had some fine oxen, six of which were bought by Mr. Batten—the finest of them weighed 15 score per quarter, and was very fat; two of the others were about 13 score per quarter. Two heifers grazed by Mr. Thomas Pidsley, of Sowton, weighing 13 score per quarter, were purchased by Mr. Maers, of Heavitree. Mr. Manley had four splendid oxen, which we think were the finest shown; indeed we heard Mr. M. offer to bet 100 guineas that one of them should turn out, when killed, the fattest of any in the fair—it was 15 score 10lbs the quarter. There were two fat heifers belonging to Sir H. Davie, which, with the exception of the one shown by Mr. England, were decidedly the primest; one was bought by Mr. Beedell, North-street, and the other by Mr. Brown, Crediton. Mr. Wm. Pidsley, of Sowton, had five fine oxen, the best of which was sold to Mr. Batten, of Newton St. Cyres, weighing from 14 to 15 score per qr, the other four were bought by Mrs. Berry, of St. Thomas. A fat heifer grazed by Mr. R. Pidsley, of Sowton Barton, was purchased by Mr. Hill. Mr. H. Brewer, of St. Tho-

mas, had a very superior heifer, (which he intends for Christmas) fed by Mr. Hugh Underhill, of Alplington, weighing about 12 score per qr. Two fine heifers fed by Mr. Davy, Weir, were bought by Mr. Hodge. Mr. England, of High-street, exhibited three beautiful heifers, one of which was allowed by all butchers and competent judges to be the best ever shown in this county, being extraordinary for its symmetry and beauty. This celebrated animal was bred and fed by Mr. North, of Emore, near Bridgewater, and weighed 15 cwt gross weight, and was purchased by Mr. England at the Taunton Agricultural Show, where she excited great interest.

ASHBOURN FAIR.—There was a good supply of fat beasts at this fair, which realized 6d per lb. Sheep were scarce, but those sold fetched fall 6d per lb. Barren cows and calves were more in demand than at the previous fair. Horses were limited in number and of an inferior description. Several fat beasts were shown by the Ashbourn butchers: Messrs. Marple exhibited two prime fat oxen and four capital heifers. Mr. Etches one ditto heifer and one excellent bullock. Mr. W. Tomlinson one prime cow. Two prime fat sheep, the one a shear and the other a two-shear, bred and fed by Mr. Smith, of Blore, and which could not be excelled for symmetry and fatness, were exhibited by Mr. S. Spencer. Mr. Bridden, of Tissington, showed an uncommon fat cow, fed by the Earl of Chesterfield. Messrs. Marple also showed three fat pigs, which excited universal notice.

At **NORTHAMPTON FAIR** there was a tolerably large number of store cattle, but, as is generally the case at this fair, they were of an inferior description to those brought to the Autumnal fairs. Most of them were sold at somewhat reduced prices. The show of fat cows was much inferior in quality to the Christmas show of beef in former years. Most of them were sold, but scarcely any at prices exceeding 4s a-stone. There were not many fat sheep, and all were readily sold at somewhat advanced prices. There were a great number of cows and heifers of inferior quality than could be turned into money. Inferior horses were numerous. Forty years ago, Northampton was a great mart for high-priced good horses, they were then bought up by country dealers in the breeding counties, and sold again at Northampton to the London dealers, who now make their purchases in the breeding counties.

NEWTOWN FAIR, MONTGOMERYSHIRE.—Fat sheep were few and sold at from 6d to 6½d per lb; stores were in little demand, and numbers returned home unsold. Few fat pigs were on sale which obtained 4d to 4½d per lb; Stores were at reduced prices. Fat cattle were scarce; but bullocks in good condition found purchasers. Stores and lean stock were very low, yet many holders were obliged to sell, in consequence of the scarcity of fodder.

FORTINGALL.—The great annual market in this quarter commenced, as usual, at Cocheville, on the 5th current. There were about seven scores three years old blackfaced widders, which sold from 13s to 16s per head; about 22 scores two years old ditto, from 8s 6d to 12s 6d; 2,000 crock ewes, from 6s to 11s; about 400 goats, from 7s to 15s. There also appeared from 40 to 50 fat black cattle, which brought from 5l to 9l; about 100 six quarters old ditto, of which only about one-third were sold, from 20s to 35s. A superior lot of two year old queys sold for about 7l 15s per head. Sheep skins from 2s to 2s 7d; goat skins from 1s to 1s 9d. Rinded tallow from 8s to 9s per stone of 22lbs; unrinded ditto, from 5s to 6s 6d.

AXMINSTER.—The agriculturists of this neighbourhood having established an annual exhibition of stock, it was commenced on Saturday se'night. Amongst the principal was a very superior fat heifer, of the North Devon breed, which, for beauty of symmetry, could not be surpassed, grazed by Mr. Flood, of

Musbury. An excellent four year old heifer, of the real Devon breed, the property of Mr. Gill, auctioneer, of Axminster:—this was a fine bullock, and now weighs 78½ score, measuring nearly 14 feet from nose to tail, and stands 5 feet 1 in.—Two very superior horn wether fat sheep, twins, bred by Mr. Halse, of Buckland in the parish of Axmouth, and grazed by Mr. Reed of Musbury.

LEWES CATTLE SHOW.—This show took place on Tuesday se'night. Mr. Stephen Lowdell presided. The company at the dinner did not exceed eighty.

The Premium of 10*l* given by the town of Lewes, for the best Ox, five years old or upwards (bred in Sussex), and worked regularly in the team until the 1st of October, 1835,—to Mr. J. P. Fuller of Mays.

The Premium of 5*l* given by the town of Lewes, for the second-best ditto,—to Mr. S. Grantham of Stoneham. *The following (as to feeding) are not allowed any other food than Grass, Hay, Turnips, Mangel Wurzel, or Potatoes.*

The Premium of 10*l* given by Agriculturists, for the best ox, five years old or upwards (bred in Sussex), and worked regularly in the team until the 1st of October, 1835, to Mr. King Sampson.

The Premium of 5*l* for the second-best ditto, to Mr. S. Grantham. The animal bred by Mr. Denman, of Willingdon.

The Premium of 5*l* given by the Proprietors of *The Brighton Gazette*, for the best ox or steer (bred in Sussex), under five years old, to Mr. Fuller. The animal bred by his father.

The Premium of 8*l* given by Agriculturists, for the best cow, four years old or upwards (bred in Sussex), that has had and reared a calf in 1835, and not turned off fattening before 1st December, 1835, to Mr. Thomas Childs. The animal bred by Mr. C.

The Premium of 4*l* given by Agriculturists, for the second-best ditto, to Mr. John Ellman, who bred the animal.

The Premium of 8*l* given by the town of Lewes, for the best open heifer, under four years old, (bred in Sussex), to Mr. Gorringe.

The Premium of 10*l* given by the Town of Lewes, for the second-best ditto, to Mr. Putland, who bred the animal.

The Premium of 10*l* 10s for the best pair of bullocks which have been longest in stall without being tied up or quitting their shelter,—no competition; but awarded to Mr. Gorringe who bred the animal.

The Premium of 10*l* given by Agriculturists, for the best pen of five South-down wethers, above two and under three years old, to Mr. John Ellman.

The Premium of 10*l* given by the town of Lewes, for the best pen of five South-down wethers, under two years old, to Mr. John Ellman.

The premium of 5*l* given by the town of Lewes, for the second best ditto, to Mr. Wm. Arkcoll.

Mr. Ellman explained that the 20*l* given anonymously for the best cultivated farm in Sussex, was still in his hands; and it was only for the candidates to appoint the judges and the premium would be awarded.

PERTH ANDREW'S MASS MARKET was well attended. In the horse market the supply was above an average as to numbers; there was a brisk demand for those for draught of ordinary quality, which formed the great proportion of those exposed; the current price of those was from 25*l* to 35*l*; those of first rate quality fetched from 35*l* to 42*l*. Of harness horses the number was not great, and not much done: good hacks brought from 40*l* to 45*l*; and for the carriage so high as 50*l* was offered. The cattle market was but indifferently supplied with fat, which sold readily at advanced prices, say from 6s 6d to 7s per stone; there were few milchers, and those also sold well. There was a good supply of both butter and cheese, which sold at nearly the rates of the late autumn markets; the former at from 18s to 20s the stone of 22lbs, the latter from 6s to 7s. Altogether there was a good deal of business effected at this market.

PORTAFERRY MONTHLY FAIR.—A correspondent, under date of Portaferry, 13th inst. writes, that

“the anticipations of the farmers, &c., in the neighbourhood were fully realized this day, by the very great show of cattle, of every description, for sale at the first of the Portaferry monthly fairs, many of which were of the best description. Farming horses, at ten to fifteen pounds value, met a ready sale, as did milk cows and heaves, the latter at 35s to 42s per cwt. sinking the offal. Pigs of all sorts were numerous, and purchased with avidity; those fit for the knife, of which there were a great many, brought 38s to 43s per cwt. Sheep were not so numerous; those in good order sold readily at about 5d per lb. The numerous premiums, as awarded, gave entire satisfaction.”—*Belfast Chronicle*.

The Annual Sale of the Duke of Norfolk's Fat Devon Oxen and Down Sheep on Monday last was numerously attended by the agricultural gentlemen and dealers of the neighbourhood, and also by Mr. Hancock, of Park Street, London, who purchased 3 oxen, calculated to weigh 212 stone, for 100*l* 10s; Mr. Cook, of Liverme, gave 80*l* for two, at about 160 stone; Mr. I. Clarke, of Bury, gave 40*l*, and Mr. F. Nunn, of Bury, gave 38*l* 10s for two of about 80 stone; Mr. Allen, of Halstead, and Mr. Gocher, of Bury, bought two beautiful heifers of about 100 stone at 55*l* 10s. A pair of remarkably fine Down wethers were sold to Mr. Cottingham, of Ixworth, for 9*l* 14s; and none sold for less than 3*l* each. The beautiful symmetry, quantity, and quality of these animals excited general admiration.

Mr. J. P. Fuller's ox, which obtained the first prize in class one, at the Lewes shew, was purchased by Mr. Henry Myrtle, butcher, of Brighton, and it is supposed will weigh from 215 to 220 stones. We have been informed by competent judges that this beautiful animal was perfect in every point.

The shew of fat stock at St. Ives Christmas market was extremely large. A beast bred by Mr. Cook, of Connington-house, weighing upwards of 100 stone, was purchased by Mr. Hall and Mr. Wheaton, of Chatteries.

YORK CHRISTMAS HORSE FAIR.—This annual horse fair commenced on Monday last, and has been one of the best ever witnessed. The arrival of horses on Saturday betokened a very great fair, and by Monday morning the stabling attached to all the inns in the city were crowded, and it was with difficulty that standings could be procured. We are happy to add that this supply was amply met with a demand—dealers from London, the Southern Counties, Nottinghamshire, and indeed from all parts of England attended the fair in larger numbers than was ever remembered by the oldest inhabitants. Hunters were looked after with great avidity, the greatest part being sold in the inn-yards, without ever reaching the fair. Very excellent prices were given, prime hunters fetching 150 guineas and upwards each, whilst those of an inferior grade were bought up at proportionate prices. Good coach-horses were equally prizeable, and those who were fortunate to possess any, found ready customers at the best prices; we trust that the prices which have been obtained at our fair this year will induce our farmers to turn themselves to this lucrative business, and that the breeding of coach-horses will engross more of their attention. Amongst the purchasers was a foreign nobleman, the Master of the Horse to the King of Denmark, and he bought fifteen two-years-old coaching stallions, for which he gave very exorbitant prices. Mr. Ellerby, a breeder of coach horses brought two beautiful black horses to the fair, and being a very excellent match, they were of course very valuable—we believe they could not have been bought for less than 200*l*. On Sunday evening one of them showed symptoms of inflammation, which rapidly increased, and last night the noble animal sunk under its influence and died. This is of course a serious loss to the respected owner.—In hack horses there was considerable business done, and any thing worth 20*l* or upwards met with a ready customer. There was an immense show of inferior horses, and even for this description the trade was brisk; many horses, which in former years would scarcely be

looked at by the dealers, were now bought up at very respectable prices. Mr. Harris, the Government contractor, made very extensive purchases; every young tit likely for a trooper found in him a ready buyer, at prices from 20*l* to 25*l* each. We believe that his purchases were principally for the 4th and the 10th regiments. Of course, this demand gave the sellers a considerable advantage, and the dealers were very urgent in closing bargains. Several of them have already purchased not less than 90 or 100 horses each. It is utterly impossible to give any estimate of the number of horses which have been sold at our fair—hundreds have changed hands in the inn-yards, and the fair-grounds this morning, from Micklegate-bar to the top of the Mount, presented one dense mass of men and horses, and many sales were effected. It is with great pleasure that we have this cheering account to give of one branch of trade from which our farmers derive their profit, and we trust that the present high prices will be permanent. An intelligent gentleman, who has had some experience in horse-dealing, accounts for the great demand in the following manner. He says that in the South the breeders of horses were so alarmed a few years ago, that the many projected rail-roads would deteriorate the value of horses, that they abandoned in a great measure that trade, and that consequently, their anticipations being unfulfilled, and their supply being inadequate to the demand, the dealers have had to turn their attention to the north, and we are happy to say that our Yorkshire breeders are now benefiting by the miscalculations of their brethren in the south. We believe that the York Christmas horse-show is now acknowledged as decidedly the first in the kingdom; it is the great mart to which the breeder can bring his produce with the certainty of meeting with a good customer; whilst on the other hand the dealers know that if there are any good horses to be bought in the country, York is the place at which they can be met with. The accommodations at the respective inns of the city are also of a very superior description, and much more extensive than at any of the other towns where horse-fairs are held.—A very singular circumstance occurred on Sunday evening, in which the instinct of that noble animal, the horse, was portrayed: Mr. Taylor, tobacconist, of Bridge-street, in this city, had a hackney stealer from Knavesmire about three years ago; and although a reward was offered, and every means adopted to recover the horse and detect the thief, all was in vain. On Sunday evening, however, much to the surprise and delight of Mr. Taylor, his old favourite made his appearance at the door of the building which he had formerly occupied as a stable, but which was now converted into a dwelling-house. Mr. Taylor immediately challenged the horse and he was readily secured. Shortly after he was claimed by a gentleman who had just arrived at Crommack's, the Wind-Mill hill, with a string of horses, including the one in question, which he had purchased some time ago in Nottinghamshire, and had brought to the York show for sale. It appeared that the animal, on being brought out of the stable, for the purpose of being groomed, contrived to slip his halter, and finding himself at large, proceeded at once as fast as his legs could carry him, to his old quarters. Of course, Mr. Taylor will keep the horse, which he can legally do.—*York Chronicle*.

HIGHLAND OF PERTHSHIRE.—HARVEST.—[We have received the following from a gentleman who is well acquainted with the districts to which he refers.]—In the districts of Ranoch, Fortingal, Glenlyon, west and of Lochtay, Glendochart, Glenlochy, and Glenfalloch, harvest may at length be said to be almost completed, and the produce of all kinds housed, except that a park of oats, or a few shocks here and there in high situations, arrest the eye. It has been one of the latest and most backward seasons, in every respect, that has been experienced here for the last fifty-four or fifty-five years. As nearly as I can ascertain, from the relation of old people, the year 1782 was as remarkable, in the lateness of its harvest, as the present, and in many respects quite similar. And as the Highlanders always distinguish any remarkable season or event by an epithet

or short description, this (1782) is designated the year of the great snow, from an exceedingly heavy fall of snow on the night immediately preceding the March market at Kenmore, Breadalbane. So great was the fall, that no market was held, although it is always one of the most numerously attended, and one where as much business is transacted, as at any in the Highlands of Perthshire—but, on this occasion, no person did or could come from a distance. The following summer and harvest proved very backward; and about Doune cattle market, in the end of October, when the harvest was not yet half finished, a severe storm of frost and snow came on. The potatoes, which had not been raised or secured before the storm commenced, were completely lost; and people, in general, were compelled, before any reaping could be attempted, to go through the standing corn, first treading down and shaking off the snow with which it was all covered. In the above districts, this season, it is universally allowed that every kind of crop is short of an average one; the oats remaining so long out in the shock, lashed with the wind and rain, that it is feared most of it will be unfit for seed. The barley, in many instances, it is allowed, is not much better; the pease and beans are quite useless for seed. The potatoes are deficient both in quality and quantity, and in those places where they were not secured before the severe frost in the end of harvest, suffered considerably. But the lower situations and districts have escaped this misfortune. In Appin, for instance, the crops are tolerably good. One of the principal millers there, told me that the early oats are excellent, giving always meal for corn, and, in some instances seventeen and eighteen pecks to the boll of corn.

ON THE QUALITY AND GROWTH OF WHEAT.—Colonel Le Couteur, of the 1st Regiment Royal Jersey Militia, has recently published a little work that proves the writer to have made, and to be making, a most exemplary use of the happy interruption of war, and to be promoting, like an excellent citizen, the arts of peace and the means of internal support and strength. The work is “On the varieties, properties, and classification of Wheat;” and the details are the results of the writer's own experiments, on his own property. Circumstances led him to make a collection of wheats; and, in the course of five years' close attention and research, it increased to upwards of 150 sorts. To show the importance of attending to the varieties and properties of wheat, Colonel Le Couteur mentions, that among these varieties there are some that will thrive better than others, in the particular soils and situations adapted to each, all over the kingdom; that one ear of a superior variety, sowed grain by grain, and suffered to tiller apart, produced 4*lb*. 4*oz*. of wheat; whereas another ear, of an inferior sort, treated in the same manner, produced only 1*lb*. 10*oz*.—a proof of the paramount importance of selecting the most productive and farinaceous sorts for seed, the profit of sowing one sort, and the loss resulting from the other, being manifest. The writer remarks that his attention was directed to this important subject by Professor La Gasca, Curator of the Royal Gardens at Madrid; that five years since he accidentally saw about 80 distinct sorts of wheat growing in a nursery-garden in Jersey, some seven feet high, some only four, the ears of some being three, others six inches long; and that the professor explained their nature to him. He requested the professor to visit his crops, considering them to be as pure and unmixed as those of his neighbours. To the writer's dismay the professor drew from three fields 23 sorts—some white wheat, some red, some liver-coloured, some spring wheat, some dead ripe, the corn shaking out, some ripe, some half so, some in a milky state, and some green. He thereupon became convinced that “no crop in that state could either produce the greatest weight of corn, give the largest quantity of flour, or make the best or lightest bread, such as would be produced from a field in an equal and perfect state of ripeness. He then selected the best and most productive sorts of wheat, and secured 14 sorts, which he afterwards cultivated with great care and success, showing the great profit resulting from this care and selection, and arguing on the immense consequences to the country, if attention to

this subject could be made a national object. The modes by which Colonel Le Couteur proceeded and succeeded occupy the remaining portions of the volume; and the importance of the work may be estimated when the author calculated that the successful application of his views and plans would enable this country profitably to grow far more wheat than could be consumed by many more millions of inhabitants than at present through its isles. The interest and utility of such a publication are, therefore, too obvious to require further comment, while the author's meritorious studies cannot be too highly praised.

MONTHLY REPORT OF THE WOOLLEN TRADE.

LEEDS, Dec. 1.—We shall surprise some of our readers when we state that the past month has been characterised by a more than ordinary share of that flatness for which November is proverbial. The resort of wholesale buyers to the market has been unusually scanty, and their purchases very small and exceedingly cautious. As to foreign orders, it is almost needless to say they are rare; the largest and most important of our foreign markets, America, being, as we anticipated it would be some months ago, glutted with British wools; and otherwise so situated from monetary disturbance, that no orders of magnitude can reasonably be expected earlier than for the fall trade of 1837. To other foreign markets less than the average business has been done; in one instance, the high price of the class of goods usually sent to that market, precluding extensive transactions,—and in another, political agitation rendering it prudent to limit mercantile enterprise.

Stocks, both of wool and woollens, have necessarily accumulated. The former is perhaps more than an average stock for the season; the latter, probably not more than is generally held by the trade in December. The latter circumstance is owing to the check given to manufacturing operations, immediately on the decisive indications of a currency crisis—say, in September. Prior to that month too, and indeed for the last fifteen or eighteen months, the manufacturers have acted with great caution. It was in fact their only safe policy, looking to the extraordinary advance in wools since 1832, as compared with the average price of several preceding years.

In prices great firmness has hitherto been manifested. Coarse wools have indeed given way since August, perhaps 3d to 4d per lb., but they were previously out of all proportion to fine wools; and we repeat it, that apart from any disturbance of the money market, they could not have been sustained at the high level they had risen to. Fine wools continue pretty stationary, having receded little more than they generally do in the duller months of the year.

This firmness is to us an unquestionable evidence of the general soundness of the trade of this district during the last two years, and that the rise of the price of wool, as a whole, has not been the result of undue speculation. We say this, admitting that the evidence of undue issues of money is not to be denied. But that over-issue has taken quite a contrary direction to what it did in 1825. Then, no article of raw material, or of Colonial produce, escaped the grasp of speculation, and prices the most extravagant were given with the most reckless avidity. This year neither the raw materials of our great staple trades nor manufactured commodities have been objects of speculation. The staple article of operation has been shares, and we apprehend that the embarrassment of the country at this moment arises from the absorption of bankers' advances in public undertakings, which differ in their influence on the national wealth, as compared with speculation in raw materials and manufactured goods, in this—that the former causes a withdrawal of a certain amount of real capital from mercantile and manufacturing operations, and by sinking it in canals, railroads, and buildings, renders it for a time totally unproductive; whilst the latter, when the

bubble bursts, causes a simple transfer of property from one hand to another. Both are accompanied with diminished national production during the agitation alarm which accompany that crisis in monetary matters which is sure to follow a rapid rise of prices, or an excessive embarkation of capital in great national projects.

Whether we are right or wrong in this view of the immediate cause of our present financial difficulties, is of little importance compared with the question—How long will those difficulties last, and what effect will the protraction of them have on general prices?

We apprehend that there will be a permanent contraction of bankers' issues. The last two or three months have afforded pretty strong evidence of the soundness of the principle on which the Joint Stock Banks are based; but we have a shrewd guess that their managers have been taught a lesson on the subject of accommodation, which they will not soon forget. They will do less, and they will do it more cautiously. We take it as settled, that the currency for the next twelve months, at least, will be considerably diminished; and as a general rule, prices of all commodities must contract with it; but this contraction, we think, will be less felt in the woollen than in some other trades; and the reasons for our opinions are so obvious, and we have so often stated them, that we shall only incidentally repeat them here.

The question of a reduction in the price of cloths, it is obvious, resolves itself into a question of a reduction in the price of wool. The stock of balk and finished cloths is not heavy enough to compel extensive sacrifices—the holders, therefore, will offer strong resistance to a fall of prices. Can the holders of wool do the same? We think they can; and until we hear of a giving way in the German markets, or have better evidence than any yet before us, as to the excess of stock over a year's ordinary consumption, we shall hold to our opinion expressed last month, that no great change is likely to take place in German wools on this side of July, 1837. Some stress has been laid on the excess of the imports of wool, this year, as compared with 1835, as a ground for concluding that wool will fall. We admit the fact, but we doubt the correctness of the inference from it. The only safe guide for the dealer is, to add the quantity of wool produced at the clip to the remaining stock of old wools, and to compare the total amount with the average annual consumption. In this view of the matter, the excess of imports up to July last may be put out of the reckoning—it is well known that the stock of wool was in no former year so completely exhausted at the clip, as this. The clip this year too was not, we apprehend, an average one. It is true we cannot calculate on the average annual consumption. What then? Why, we think fewer of the inferior samples will come to this country, but the prime families will maintain their price; and at the clip of 1837, if the surplus be considerable, wool will decline at the fairs. We advance this opinion, on the belief that no more serious derangement will occur in our currency affairs than that which we are now experiencing. If the Joint Stock Banks verify the expectations of those who advocated their establishment, they will stand their ground, and though they will, and indeed must, contract their accommodation, a month or two more will probably suffice for the adjustment of prices and the restoration of confidence. We are yet far from thinking that industry will resume its proper and wonted activity in that short period, but we confidently believe it will gradually and surely progress to that point which is essential to the proper comfort of the workman, and the sufficient remuneration of the employer. To this consummation it is our devout wish that we may soon come.

We cannot conclude this report without expressing our satisfaction that severe as has been the pressure on the manufacturers, there is yet no great number of work-people out of employ. The general plan has been to keep all employed, and to diminish the hours of daily labour. This is as it should be, and we hope it will cement that good understanding betwixt the employer and the employed, which in spite of the outrageous and indecent imputations on the former by Factory Bill agitators, we rejoice to think is on the increase.

REVIEW OF THE CORN TRADE

DURING THE MONTH OF DECEMBER.

It is a subject to which allusion has not unfrequently been made, to the results likely to emanate from too high a range of price in the value of wheat, and that the excess beyond a fair remuneration was far from being beneficial to the farmers or the system of Corn Laws many are anxious to support. There is, however, a fact attendant on high prices, which has not been noticed in the recent discussions with respect to the Corn Laws, but which ought to be brought into consideration when forming a just estimate of their operation. We refer to the stimulus given by high prices of corn to the cultivation of Potatoes. When there are two species of food obtainable in a country, it is obvious that an artificial rise in the price of the one, has really the same effect on the other as if a *bounty* were given for its consumption. We have been endeavouring to collect authentic accounts with respect to the cultivation of Potatoes in Great Britain since the year 1800, and these, though imperfect, are sufficient to demonstrate that it has been nearly *quadrupled* during the present century, and the annual import coastways and receipts by land carriage from the neighbouring counties into London alone may be now calculated at nearly equal to 186,000 tons. We have every reason to believe that the comparative low range of prices of this valuable root is to be in a very considerable degree ascribed to the increased consumption of the article. In many populous districts Potatoes have become a more important article than Corn in the subsistence of the labouring class, and were we now unfortunately visited with a succession of bad harvests and high prices were to rule for four or five years together, the stimulus they would give to the use of the Potatoe would be so great that it is doubtful whether our prices would not be in consequence sunk below the level of those of the continent. It is, however, we hope, unnecessary to say that these results cannot be too much deprecated. Should our people ever become habitually dependent on the Potatoe for the principal part of their food they would, it is to be apprehended, be brought into the same miserable condition as the peasantry of Ireland. Under such circumstances their wages being regulated by the price of the cheapest kind of food hitherto raised in Europe, would not enable them to obtain any thing else, when it was deficient; so that, whenever the Potatoe crop failed, they would be left without the means of support; and dearth would be attended with all the horrors of famine, a fact too recently exemplified in parts of Ireland to admit of doubt. For these reasons it would seem evident,

that though foreign corn were for ever excluded from our shores, and though it were possible to prevent our markets from being glutted with native produce, yet the inducement which advanced prices would afford to the growth and consumption of Potatoes would, in all probability, effectually prevent their continuance for any lengthened period at a high elevation; a circumstance that ought to arrest the attention of landlords, and if the fact is reflected on, we feel confident that concurrence must be given, that to attempt to keep up prices to an unnatural height, is an enterprise as futile as it is dangerous and must ultimately be alike productive of injurious consequences, not only to agriculturists but all classes of society.

At this season of the year dulness generally pervades the trade, and during later years it has been more particularly indicative of the state of agricultural distress, by the farmers being forced to press their produce on the markets, in order to realise cash and obliged to accept the depressed terms caused by their own necessitous operations. These circumstances are, however, now influencing farmers in a much less degree, and we rejoice in noticing, in spite of what pseudo-friends may state to the contrary, not only that the incentive for keeping the markets better supplied does not proceed from "craving want," but from the feeling on the part of many of the growers, that the present rates being remunerative, they are not disposed to render themselves speculators, and are willing to accept the current prices, satisfied with the return, rather than with the expectation of obtaining a few more shillings per qr, incur the chance of the reverse; a line of policy, under present circumstances, commendable and judicious.

During the month of December the following quantities of Grain and Flour have arrived in the port of London:—

	Wheat. qrs.	Barley. qrs.	Malt. qrs.	Oats, qrs.
English	30,645	48,406	22,788	12,293
Scotch	30	5,145	223	16,356
Irish .....	..	1,704	..	48,537
Total in Dec.	30,675	55,255	23,016	77,186
Total in Nov.	36,029	56,524	21,931	110,428
Total in Oct.	30,490	27,938	22,337	46,315
Foreign.	3,843	11,760	...	13,565

	Beans. qrs.	Peas. qrs.	Linseed. qrs.	Flour. sacks.
English	6,888	6,247	60	33,888
Scotch .....	...	..	...	380
Irish	6	...	...	...
Total in Dec.	6,894	6,247	60	39,268
Total in Nov.	6,737	6,701	269	41,414
Total in Oct. ..	7,648	6,267	...	32,755
Foreign in Dec.	1,570	1,696	10,812	brls. 2,970

The weather throughout the month has been variable; a considerable quantity of rain having been experienced, and impeding agricultural operations, the saturation of the earth having prevented farmers from making much progress in getting their seed into the ground, while the completion of potatoe digging was deferred to a very late period. At the 23rd, the wind veered to the north-east, and the weather has since exhibited all the characteristics of an old English Christmas, with its attendants, frost and snow; and of the latter so heavy has been the fall, that the metropolis was rendered almost isolated, being cut off from nearly all home and foreign intelligence: the markets therefore held towards the close of the month, were in very moderate supply and thinly attended; operations being carried on to a very limited extent, until the communications with the different parts of the United Kingdom were restored. The circumstance, however, has had the effect of communicating firmness generally to the trade, as the coldness of the temperature being an incentive to consumption, the appearance of frost has always a decided tendency in enhancing the demands of holders of wheat and oats; and though the former article has not regained the depression experienced the beginning of the month, amounting to 2s to 3s per qr on the better qualities of red wheats, and 1s to 2s on white, ordinary and inferior qualities having sustained a still further decline of fully 1s per qr; yet in the sales effected, an improvement of 1s to 2s per qr has been realized, and the speculative feeling apparently on the eve of again rallying.

The flour trade has been extremely languid, and bakers having got into stock at the higher range of prices, much difficulty has been experienced by the town millers to quit their samples, the top price of 55s becoming quite nominal, and ships' flour receding 1s per sack. The trade has, however, been rendered steady latterly, and the previous prices demanded. Bonded flour has remained steady in price.

Bonded wheat has suffered no depreciation in value, the decline in the duties warranting holders to be firm at their former prices, for though speculative attention had subsided towards the article, yet its value has been partially enhanced by the reduction of the import duties; the firmness likewise in the markets of the United States and the enhanced rates there quoted being freely realized for the shipments

made from Europe: no doubt exports will be again made from our ports, when it is ascertained that the duties in England are not likely at present to recede below 26s 8d.

By the official accounts published of the amount of foreign grain and flour in bond in the United Kingdom, it appears that on the 5th of December there were 579,784 qrs of wheat, and 176,119 cwts of flour in bond; on the 5th of November there were 578,659 qrs and 167,440 cwts. During November the imports of wheat have been 13,194 qrs, and of flour 26,516 cwts. The quantity of wheat which paid duty was 2,468 qrs, and of flour 1,689 cwts, chiefly colonial produce; leaving 9,601 qrs of wheat, and 16,148 cwts of flour to be accounted for by export. The amount of barley which paid duty has been 4,930 qrs; of oats 731 qrs; beans 2,593 qrs; and Peas 358 qrs. The quantity of oats exported, principally to the West India Islands, has been 4,642 qrs.

The duties on wheat during the past month have receded 9s per qr; on barley 1s 6d, oats 1s 6d, rye 10s 3d, beans 4s 6d, and on peas 3s per qr.

The supplies of Barley, though not so extensive as those of the previous month, have still been considerable, exceeding 48,000 qrs. in addition to which about 12,000 qrs have been received from abroad, and as the duty has attained its minimum range of 4s 10d, the whole has been offering free on the market; these circumstances, added to the pressure continuing on the Malt trade, has rendered the market extremely dull, at declining rates, especially for ordinary samples of malting, as well as distilling and grinding sorts; and as the bulk of the foreign supplies are of fair quality and adapted for distillers' purposes, the stained English samples have become almost unsaleable: prices of all descriptions being 1s to 3s per qr cheaper. Malt has also remained heavy sale at a reduction of 3s to 4s per qr. In addition to the large stock of old checking the demand for new malt, the larger Brewers have been experiencing less sale for their beer, while, on the other hand, the distillers are experiencing an increased demand for their more deleterious article of spirits.

The supply of Oats from Scotland has rather increased, but diminished from England and Ireland. The trade, until the setting in of the cold weather, ruled exceedingly dull, and prices have weekly receded: dealers and consumers refraining from purchasing, in expectation of the foreign qualities paying the duty of 7s 9d, and which holders have done to the extent of a few thousand quarters, and as many of the cargoes of new British have come to hand inferior in quality and heated in condition, foreign round parcels had commanded a preference. Scotch and Irish having in instances been forced off at very low rates; while the finer descriptions have not receded more than 1s to 2s per qr. Little has been done in free on board sales in Ireland, as shippers have

required 6d to 1s per barrel more money than importers were inclined to offer.

The supplies of Beans having rather increased, and the duties on the admission of foreign having continued to recede, have contributed to depress the trade fully 2s to 3s per qr.

White Peas had declined 3s and Grey and Maple 1s to 2s, with an extremely heavy trade, but the cold weather setting in caused the trade to rally, and most qualities partially regained their depression.

The Canadian markets, Quebec and Montreal, continue in limited supply, though the state of the roads afforded farmers the facility of conveying their grain by land carriage to these two principal markets. At Montreal on the 12th ult., Lower Canada red Wheat was worth 6s 6d to 6s 10½d per 64lbs. Flour was saleable at 40s for Upper Canada fine, which exhibits a decline of 1s 3d per barrel since the last advices. The prices of agricultural produce in Canada appears likely to range high this year, but if these advanced currencies are the consequence of deficient crops, occasioned by damage or whatever other cause, and not from an extended market demand, it will not prove beneficial to farmers generally, though it may in some few individual cases. Indeed, the season on the aggregate, will not be favourable to the inhabitants of Lower Canada, nor for the other British provinces or neighbouring states, as they appear to have suffered more from the inclemency of the weather than even in Canada.

As the West Indies are drawing supplies of Flour and Grain from Europe, owing to the failure of the crops in the United States, and the currencies of the Islands being peculiar to themselves, consisting of an imaginary money, and varying in different colonies, we have given the following table showing the value of 100l sterling, and of a dollar in the separate islands —

	sterl.	cur.	dol.	cur.
	£	£	l	s. d.
Jamaica	100	140	1	6 6
Barbadoes	100	135	1	6 3
Windward Islands } except Barbadoes	100	175	1	8 3
Leeward Islands .	100	200	1	9 0

We cannot here refrain from remarking, that a spirit of enterprise appears reviving in the West Indies, which may eventually re-establish their ancient splendour. Agriculture and manufactures are two of the principal means of effecting this desirable result. Education is also receiving the attention of the people. Local banks are superseding foreign banks, and the resources of the Colonies are unfolding themselves, and an interest is excited among the planters and merchants, which promises great and future prosperity, and it may be therefore hoped that the time is not far distant when the inhabitants will be dependent more on home than foreign cultivation.

A considerable enhancement took place in the

Italian markets in consequence of the advices from England noting the advance in the value of wheat, and similar accounts from the United States, for both which destinations some shipments are being made. Beans also in brisk demand for English account. At Naples the cholera still prevailed, but business was regaining its wonted animation. Common Barletta wheat had obtained 37s, and fine quality held at 40s; Romanelli, 41s; oats 11s to 11s 4d, and small beans 26s to 27s. A small parcel of linseed might be collected at 44s. At Leghorn several purchases of wheat were being made for England. Odessa wheat obtaining 35s to 37s 3d, and Barletta 42s 7d. Beans were in request at 25s 6d to 26s 6d, freights ranging at about 8s per qr. At Venice soft Odessa wheat was purchasing for England at 34s 10d, and linseed had obtained 51s 5d to 53s 3d per qr. No beans offering fit for England. The government had imposed a duty on the import of cattle bones, which prevented at present any shipments being made. On the arrival, however, of dull accounts from England the speculative spirit for the moment became dormant. At Leghorn, wheat, though not quoted cheaper, might have been bought on easier terms. Beans were scarce, and as the Pacha had caused the Egyptian produce of this article to be transported to his army in Syria, little supply was expected from Egypt. Good barley was scarce, but the Mediterranean growth is generally unfit for malting, and only used for the feed of cattle. At Naples Barletta wheat had receded in value. At Trieste extensive purchases were being made for Italy and the United States, at advancing prices; good qualities of wheat were scarce, and commanded the highest rates of 39s 9d per qr, and the latter at 43s 3d to 50s 2d.

In Norway the government have adopted the same measures which have been previously acted upon by the Russian ministers of purchasing large quantities of grain on account of the crown, in order to prevent any disastrous effects to the lower orders from failure in the crops, and consequent scarcity of provisions, and as it is impossible for any merchant to compete with so powerful a rival in the market, it has been recommended by the minister that Norwegian merchants should not engage in corn speculations.

At St. Petersburg Kubanka wheat for Spring delivery had been sold at 30s 9d, and holders were demanding 32s 1d to 33s 5d; several thousand tchetwerts of oats have been contracted for May delivery at 11s 11d to 12s 7d. Morschansky linseed deliverable in July and August at 39s 9d to 41s.

At Riga the demand for grain had partially subsided, occasional sales of oats only being made at 13s 4d per qr for Russian qualities for spring delivery, weighing about 36lbs, with 10 per cent advanced, and 12s 4d to 12s 8d, with all the money paid before hand; heavier samples were difficult to obtain. The landed proprietors in Courland were

withholding their supplies of grain from the market in anticipation of higher rates; Courland wheat was held at 31s 10d to 33s 4d; sowing linseed was cheaper, being noted at 26s 11d to 26s 2d per barrel; hempseed, 24s 6d to 25s 9d. At Königsberg nothing was transpiring in grain, and though supplies were expected from the country, yet prices would not it was anticipated recede; several purchases of beans, peas, and tares had been made on English account, and little supply on hand, the bad state of the roads preventing farmers from bringing their fresh thrashed grain and pulse to market. At Danzig the trade was languid; white mixed new wheat sold at 39s to 40s, and from granary nothing was offered, and the fresh supplies in very bad condition. The following fact requires the particular attention of the trade, as creating in future an additional value on Polish samples of wheat. "A transit duty of 18 florins on wheat and 12 florins on Rye, has been laid on Polish produce, by the Prussian government, and both descriptions of grain are henceforth to be kept separate under lock, having to pay a heavy additional duty: if entered for the home consumption the duty will be equal to 15d per qr on wheat, and 10d on rye.

At Stettin the languor which had pervaded our trade, had not been participated in that of the Lower Baltic markets. Red Marks and Silesian Wheats were held at 33s; Oderbruck barley, 18s 6d; white and yellow Silesian of 51lbs, 21s 6d. At Rostock and Wismar, wheat remained at 33s, and the stocks extremely limited, which prevented prices from receding. Mecklenburg barley, 21s to 22s; oats, 15s 6d.

At Hamburg some sales of new Upland wheat had been made for America at 37s to 38s, and of old fine at 38s 6d to 39s, but the arrivals from the Upper Elbe being large, and the export demand subsiding, bakers and millers were cautious purchasers. Offers were making of good Marks and Upland Wheats at 35s 6d to 36s, deliverable in spring, weighing 62lbs to 62½lbs. Barley extremely dull at 24s 6d for fine malting. The scarcity of vessels contributes to render the trade heavy in preventing the execution of orders. Oats dull. Cloverseed without demand, and prices nominal. Though the money market had rather improved, yet a difficulty still existed in the negotiation of paper, unless at a short date on first-rate houses, without submitting to a heavy rate of discount, say on short bills 6¼ to 7 per cent., and long, 6½ to 6¾.

At Rotterdam the arrivals of Wheat had been considerable, and Rhenish qualities had receded in value 1s per qr, being noted in bond at 36s 6d to 39s, Barley dull, and fine Nassau offering in vain at 24s 6d to 25s. New oats were dull sale, but old, owing to their scarcity, supported fully the previous rates. Rapeseed scarce, and rather higher, being noted at 33l to 34l per last.

In the United States the prices of wheat and flour have evinced symptoms of further improvement, especially at Baltimore and Philadelphia. At New York, Western Canal flour remained at 45s, or 10 dollars for common brands, and fancy 10 dollars 25 cents; and the foreign arrivals of wheat realizing 2 dollars to 2 dollars 12½ cents per bushel.

At Baltimore prices of flour were firm at 47s 3d per barrel. Little Maryland wheat in market, and the few parcels on hand were held at reduced rates, but foreign samples were unaltered, German and Prussian qualities obtaining 77s to 80s 8d, foreign, from England, 73s 4d to 75s 2d. The scarcity of money was severely felt, and discount 1½ to 2½ per cent. per month. At Philadelphia, flour had advanced to 11 dollars per barrel; foreign wheat had

brought 80s 8d to 82s 6d per qr. The pressure in the money market continued. Much curiosity has been exhibited to know the average amount of grain produced in the United States, and though no possible data are afforded, which would lead to an accurate result, yet the following table presents as close an approximation to the fact as circumstances will admit:—

	bushels.
Indian Corn.....	100,000,000
Wheat.....	50,000,000
Rye.....	20,000,000
Oats.....	20,000,000
Barley.....	1,250,000

In relation to the extent of surplus of the preceding crops in America, which may be available towards making up the deficiency existing in the new produce of the different States, it is remarked in the American advices, that in the Southern Section of that extensive district in which the crops have failed, the principal part of the wheat grown has always been brought to market before winter, to preserve it from the ravages of the fly, and it would be difficult to find any saleable old wheat there at harvest; this year it was quite exhausted. In the Western parts of Virginia and Maryland, and in Pennsylvania and New York, some grain will always be found at harvest among millers and farmers—such was the case this year; and from that stock and the old flour remaining with factors, aided by some foreign wheat, has been drawn the supply for the consumption, that has progressed since harvest; for up to this time the new wheat that has appeared in the market is quite unimportant. It is estimated that the available surplus from old crops is equal to three and three quarter millions of bushels of wheat, which is however exceeding what much of the information would justify, allowing also that those districts in which the crops are good, embracing a small part of Pennsylvania, Western New York, and the North-Western States will furnish one million of barrels of flour, equal to five million bushels of wheat to the Atlantic cities, allowing likewise that the new crop is fully sufficient in the district where it has failed to furnish seed and food to the farmers and the interior towns, villages, and manufactories, which is very doubtful, still there would be required five millions of bushels of wheat from foreign ports before another harvest;—this is the account of an intelligent, but we apprehend sanguine, speculator.

The following is an interesting statement from the "Albany Argus," showing the quantity of wheat and flour which arrived at Tide Water, by the New York canals, from the opening of the navigation to the 1st of Nov. 1835 and 1836:—

	1835	1836
Barrels of flour	835,034	834,529
Bushels of wheat	576,445	782,706

There appears a decrease in the number of barrels of flour of only 505, and an increase in the number of bushels of wheat over last year of 206,261 bushels. Allowing five bushels of wheat for a barrel of flour, and the quantity will stand as follows or each year, viz.:

	1835	1836
Barrels of flour.....	950,325	991,070
Increase this year over last . . .	40,745	barrels,

In 1834 the average price of flour was 5 dollars, and in 1835 6 dollars 50 cents. At the present time and for a considerable portion of the season, flour has been 10 dollars per barrel. There is no foreign demand to influence prices, any more than in the two preceding years; on the contrary, considerable quantities of wheat and other grain, have been im-

ported from foreign countries. If the supply from other sources has been kept up as well as the supply through the canals, it is not easy to perceive how the price of flour is maintained so enormously high, when money is worth two per cent. a month in the great emporium for cash and commodities—New York.

An Account of the Quantity of Grain and Flour imported into the United Kingdom during the month ending the 5th Dec., 1836; the Quantity on which the Duty has been paid for Home Consumption, and the quantity remaining in Warehouse.

CURRENCY PER IMPERIAL MEASURE.

	BRITISH.		DEC. 1.		JAN. 1.	
	s.	s.	s.	s.	s.	s.
Wheat, red, Essex, Kent, Suffolk.....	50	10	69	10	64	
White.....	52	69	52	66	64	
Norfolk, Lincolnshire and Yorkshire....	48	60	40	58		
White, do. do.....	50	64	46	62		
West Country Red.....	—	—	—	—		
White, ditto.....	—	—	—	—		
Northumberland and Berwickshire Red.....	—	—	—	—		
White, ditto.....	—	—	—	—		
Irish Red.....	—	—	—	—		
Ditto White.....	—	—	—	—		
Barley, Malting, new.....	36	40	36	40		
Chevalier, new.....	38	42	38	41		
Distilling.....	32	35	32	35		
Grinding.....	28	31	28	31		
Irish.....	26	30	24	30		
Malt, Brown.....	48	54	47	52		
Ditto, Chevalier.....	64	67	64	63		
Ditto, Norfolk and Suffolk Pale.....	56	65	54	61		
Ditto Ware.....	64	66	61	62		
Peas, Hog and Grey.....	38	40	36	38		
Maple.....	34	39	36	38		
White Boilers.....	38	48	38	45		
Beans, small.....	47	52	41	48		
Harrow.....	45	50	41	46		
Ticks.....	40	49	38	45		
Mazagan.....	34	46	36	40		
Oats, English feed.....	28	6d 30	26	6d 28		
Short small.....	30	32	27	29		
Poland.....	31	33	29	30		
Scoren, Common.....	29	31	23	28		
Berwick, &c.....	29	32	28	29		
Potatoe, &c.....	32	34	29	31		
Irish, Feed.....	28s 0d to 28s 0d		23s 6d to 25s 0d			
Ditto Potatoe.....	27s 6d 30s 0d		24s 0d 37s 6d			
Ditto Black.....	26s 0d 2s 0d		20s 0d 25s 0d			

	Wheat.	Barley.	Oats.	Rye.
	qrs.	qrs.	qrs.	qrs.
Quantity imported....	13,194	5,293	10,481	..
Do. entered for home consumption.....	2,468	4,980	731	..
Do. remaining in warehouse.....	579,784	30,756	248,525	6,719
	Peas.	Beans.	Maize.	Flour.
	qrs.	qrs.	qrs.	cwts.
Quantity imported....	3,641	1,829	..	26,516
Do. entered for home consumption.....	358	2,593	2	1,689
Do. remaining in warehouse.....	9,144	24,578	20	176,119

IMPERIAL AVERAGES.

	Wheat.	Barley	Oats	Rye	Beans	Peas
Weekending						
11th Nov.	55 6	38 11	26 10	36 4	41 4	43 11
18th "	60 4	39 10	27 6	39 0	46 4	44 10
25th "	61 9	39 3	27 0	42 6	47 10	46 6
2nd Dec.	59 7	37 9	26 10	41 9	46 7	45 4
9th Dec.	60 4	37 4	26 5	44 11	45 9	43 2
16th "	60 6	36 9	25 5	43 4	44 10	42 11
Aggregate Average of the six weeks which regulates the duty.....	59 8	33 4	26 8	41 4	45 11	44 5
Duties payable in London till Wednesday next inclusive, and at the Outports till the arrival of the Mail of that day from London.....	27 8	4 10	7 9	3 0	2 0	3 6
Do. on grain from British possessions out of Europe....	5 0	0 6	0 6	0 6	0 6	0 6
Foreign Flour, 16s 8d per 196lbs. British Possessions do, 3s. per 196 lbs.						

PRICES OF FLOUR,

Per Sack of 250 lbs.	DEC. 1.		JAN. 1.	
	s.	s.	s.	s.
Town-made.....	50	10 55	50	55
Norfolk, Suffolk, Kent, and Essex....	44	48	44	48
Sussex and Hampshire.....	42	46	42	46
Superfine.....	47	—	47	—
Lincolnshire, Yorkshire, and St. Ickton.	44	46	44	46
Northumberland, Berwick, and Scotch.	42	45	42	45
Irish.....	42	48	42	48
Extra.....	50	—	50	—

PRICES OF SEEDS.

DEC. 26.

Several fresh arrivals of foreign Clover seed have been received during the week, comprising 70 bags and 91 bales from Rotterdam, 125 casks and 207 bags from Hamburg, and 10 bags from Antwerp. The pressure on the money Market still appears to influence the speculative character of the market, and throughout the week, the trade has ruled extremely heavy, and if sales were forced, still lower rates must have been submitted to. Trefoil dull, and a few purchases making at low figures. Linseed, owing to the cold weather, evinced a tendency to advance, being held on higher terms. Rapeseed extremely dull, but unaltered in value. Canary met with little or no attention, and could have been bought at 1s to 2s less money, say 44s to 46s. In Coriander and Caraway no alteration, but prices nominal. Mustard seed supports its previous rates. Tares extremely dull at 4s 6d to 5s. In Linseed Cakes little doing, but previous terms fully maintained. Rape cakes nominal.

REVIEW OF THE HOP TRADE,

FOR THE MONTH OF DECEMBER.

As we anticipated in our last number, the demand for Hops has considerably increased since the duty was declared, and the consequent fall in prices,—the best parcels are in active demand, so few fine Hops being produced this season, they keep their prices, —middling sorts are now taken off the market with more spirit at the present moderate rates.

The trade look for the turn of the year when the London Brewers generally stock for six months, more particularly when the rates are below par,—some advance is likely to follow, as the consumers will not risk the next year's growth, from this fact that never before the present time, have the growers had six crops in succession; fortunately for all parties concerned, the consumption, still on the increase, is quite equal to the stock on hand,—this will keep the market firm for good hops, till the trade begin again to form opinions of the growth of next season.

PRESENT PRICES.

	£. s.	£. s.	£. s.
East Kent Pockets.....	4 10	—	5 5 fine 7 0
Bags.....	4 4	—	4 15 — 5 18
Mid Kent Pockets.....	4 2	—	4 15 — 6 6
Bags.....	3 10	—	4 10 — 5 12
Weald of Kent Pockets....	3 10	—	4 10 — 5 2
Sussex Pockets.....	3 10	—	4 4 — 4 15
Yearlings.....	2 10	—	3 3 — 4 4
Old olds.....	1 1	—	1 10 — 2 2

POTATOE MARKET.

WATERSIDE.—SOUTHWARK, 26th Dec.—The supplies of Potatoes have been moderate throughout the week, chiefly from Yorkshire, and a few from Scotland, with 270 tons from Jersey, and the quantity coastways on hand this morning for sale does not exceed about 350 tons of Yorkshire, 100 do. of Scotch, and about 200 do. of Jersey. The trade throughout the week, chiefly owing to the mild weather, was by no means brisk, though the demand keeps pace with the supply, the fresh arrivals being principally middling and rough samples; the lower range of the encrences of Yorkshire and Scotch qualities are reduced 5s per ton. As, however, Christmas has set in with its characteristic coldness a more animated business in Potatoes is to be anticipated.

CURRENCIES.		Per ton.	
Yorkshire reds	80s to 90s	American natives	5s to 6s
Scotch do	70s 80s	Essex Whites	65s 75s
Devonshire do	85s 90s	Jersey & Guern. blue	5s 75s
Kidneys	80s 90s	Do. whites	65s 70s
Shaws	8s 9s	Chats	35s 45s

No Irish at market.

BOROUGH AND SPITALFIELDS MARKETS.

WARE.		Per Ton.		MIDLINGS.		Per Ton.	
Scotch reds	4 5 to 4 15	Scotch Red	4 0 to 4 5	Marsh Champ.	3 5 to 3 15	Common reds	3 0 to 3 15
Marsh Champ.	3 15 4 5	Common reds	3 0 3 15	London whites	3 5 4 0	Shaws	2 10 3 0
Common reds	3 15 4 5	London whites	2 15 3 0	Chats	11 10s to 11 15s per ton.		
London whites	3 5 4 0	Shaws	2 10 3 0				
Shaws	3 0 3 15						

WOOL MARKETS.

BRITISH.

During the last week, prices, which have been hitherto only nominal, have become real, and already considerable business has been transacted, and, although it cannot be conjectured from what cause, a sprightliness has become manifest in most branches of the trade, and it is noticed that a spirit of speculation is entertained by some dealers already; it is to be feared that the present stir in the trade is not likely to prove permanent, the only ground for expecting that it will, is the lowness of stock of the manufacturers, but that has been fully counterbalanced by the stocks of the woolstaplers being larger than usual.

	Per lb.	DECEMBER 1.		JANUARY 1.	
		s. d.	s. d.	s. d.	s. d.
Down Tergs	1 8 to 1 9	1 8 to 1 9	1 8 to 1 9	1 8 to 1 9	
Half-bred do	1 9½ to 1 10½	1 9½ to 1 10½	1 9½ to 1 10½	1 9½ to 1 10½	
Ewes and Wethers	1 5 1 6	1 5 1 6	1 5 1 6	1 5 1 6	
Leicester Hogs	1 5 1 6	1 5 1 6	1 5 1 6	1 5 1 6	
Do. Wethers	1 2 1 3	1 2 1 3	1 2 1 3	1 2 1 3	
Blanket Wool	0 8 1 4	0 8 1 4	0 8 1 4	0 8 1 4	
Flannel	1 2 1 9	1 2 1 9	1 2 1 9	1 2 1 9	
Skin Counting	1 2 1 6	1 2 1 6	1 2 1 6	1 2 1 6	

WAKEFIELD WOOL MARKET.—We have had a brisk demand for deep combing wools. Middle hogs, which have hitherto been so much neglected, have been ready of sale, and at an advance in price of 10s per pack, this week; it is difficult quoting the price of middle wethers, there are so few in the market, but notwithstanding the previous advance on them, they would be sold at more money.

CHESTERFIELD, Dec. 21.—The wool trade here has assumed a new appearance—prices are on the advance, and a disposition to do business.

LIVERPOOL.

WEEK ENDING DECEMBER 26.

ENGLISH AND IRISH WOOLS have met with ready sale during the present week. English combing wethers have been in good repute, and have readily realized the accompanying prices. The importation of Irish amounts to nearly forty tons.

ENGLISH WOOL.—Down ewes and wethers, 18d to 19d; Down tegs, 20d to 21d; combing fleece, 18d to

19d; combing skin, 16d to 18d; super. skin, 17d to 18d; head skin, 15d to 16d per lb.

IRISH WOOL.—Irish fleeces, mixed lots, 16½d to 17½d; Irish wethers, 16½d to 17d; Irish hogs, 16½d to 17d; Irish combing skin, 15d to 16d; Irish short skin, 13d to 16d per lb. Import this week, 72 bags; this year, 5,365.

SCOTCH WOOLS maintain the improvement noticed last week. There has been a considerable amount of business transacted in Laid Highland, at 11s to 11s 6d per stone. The sales in cross and cheviot have not been so extensive as in laid Highland; but there has been, nevertheless, a respectable demand for the former wools.

Current prices per 24 lbs.:—Laid Highland, 11s 3d to 11s 7d; white Highland, 14s to 15s; laid Galloway, 12s to 12s 6d; white Galloway, 15s to 16s 6d; washed cross cheviot, 17s to 18s; unwashed cross cheviot, 14s to 15s; unwashed cheviot, 18s to 20s; washed cheviot, 21s to 27s; white cheviot, 28s to 35s; white combing skin, 20s to 21s; ditto grey, 11s 6d to 16s. Imports this week, 40; ditto this year, 21,205 bags.

FOREIGN WOOLS of every description have been tolerably brisk during the week. Good prices have been realized for the numerous small lots which holders have disposed of, as much, perhaps, as can be expected at this season of the year.

Current Prices.—Russian wool, 8d to 8½d; Odessa, fine, 1s 9d to 3s 3d; Buenos Ayres, 4d to 5d; Mogadore and Barbary, 4d to 6d; washed Peruvian, 12d to 14d; unwashed ditto, 9d to 10d; Portugal R., 1s 4d to 1s 6d; ditto, low marks, 11½d to 1s 1½d; German fleeces, 2s 0d to 2s 3d; ditto assorted, 2s 3d to 2s 6d; ditto lambs, 2s 3d; Spanish R., 2s 3d to 2s 6d; ditto F S, 2s to 2s 2d; New South Wales, 2s to 2s 9d per lb. Imports this week, 804; imports this year, 48,195 bales.

FOREIGN.

DEC. 26.

Supplies, since Monday last, have amounted to about 920 bales of Wool from Spain, 800 do. from Germany, and 90 do. from Russia and Italy. Considerable sales of Colonial Wool are expected to take place at Garraway's, the latter end of next month; that which took place on the 21st went off very heavily. Private contract demand continues steady, at fully last week's quotations.

Electoral Saxony wool, from 4s 6d to 5s 6d; first Austrian, Bohemian, and other German wools, 3s 0d to 3s 8d; second do., 2s 0d to 2s 6d; inferior do. in locks and pieces, 1s 6d to 2s 0d; do. lamb's do., 2s 6d to 3s; Hungarian sheep's do., 2s to 2s 6d; Leonesa sheep's do., 2s 6d to 3s 4d; Segovia do., 2s 0d to 3s; Soria do., 2s 4d to 3s; Caceres do., 2s 6d to 3s; Spanish lamb's wool, 1s 6d to 2s 6d; German and Spanish cross do., 2s 2d to 3s 4d; Portugal sheep's do., 2s 4d to 2s 10d; do. lamb's do., 1s 4d to 2s 6d; Australian, fine crossed do., 2s 4d to 3s 6d; do. native sheep's do., 1s 8d to 2s 8d; Van Diemen's Land native sheep's do., 1s 6d to 2s 8d; Cape of Good Hope do., 1s 6d to 3s.

WOOL,

On which the Home Consumption Duties have been paid at London, Liverpool, Bristol, and Hull, during the last week.—

WOOL.	This Year, previous to last week.	Same time in the last Year.
Sheep, Spanish, lb.	2090032	1570604
Bristol	115012	113583
Australian	7338314	6593892
Other Sorts	2095450	13111161
Hull	21107059	13509438

BONES.

Since our last there have passed the SOUND or ELSINORE, the GREAT BELT, and the HOLSTEIN CANAL, ships loaded with Bones, bound for Hull, 1; and for Leith, 1.

TURF INTELLIGENCE.

We have frequently had occasion to notice the general bad management of York Races, the suspicious proceedings by which they have been too often disgraced, as well as the supine indifference evinced by the inhabitants of this celebrated city, to an establishment to which they are eminently indebted, the extinction of which would reduce the importance of Old Ebor to nothingness or annihilation; on the present occasion, however, we are extremely glad to change our tone, and to have to speak of symptoms of racing re-invigoration, which cannot fail to be received with pleasurable satisfaction by all well-wishers of our noble and truly national establishment, the Turf. Aware of the palpable decline already noticed, and also of the ruin which must shortly follow, if not averted, those who felt more deeply interested in the subject than the bulk of the inhabitants of York, succeeded in getting together a public meeting on Monday, the 5th ult., for the purpose of considering the most eligible method of restoring the races to their original or former popularity. At this meeting (which assembled at Mr. Lockwood's hotel) it was resolved, that a committee should be immediately appointed to carry the wishes of the meeting into effect, and a subscription was entered into for the purpose of making liberal additions to the stakes. John Roper, Esq., was appointed chairman of the committee, and Mr. J. Orton, secretary. This is as it should be, and the effect of these proceedings became immediately apparent, as will be perceived from the following paragraph, which we copy from the *York Herald*;—"We this week have to direct the supporters of the turf to the amended list of stakes for the ensuing York meetings, to which the committee have spiritedly made additions, exceeding in amount five hundred pounds, exclusive of his Majesty's one hundred guineas. Such great liberality will no doubt be productive of excellent sport, and draw a great influx of strangers to our city, which the excellence of our course, the superiority of the contiguous stabling, and other conveniences and accommodations, such as no other place possesses, aided by the additions to the several stakes, warrant us in anticipating. We also observe that the race weeks, among other attractions, will each boast a dress ball, which we hear will be patronized by the most distinguished families of the county and neighbourhood."

Let the friends of York races persevere in the highly laudable undertaking of improvement which they have so well begun, and they shall have our sincere good wishes, and all the support we are able to give them. However, let them recollect that, though York affords all the requisite accommodations for racing in a very eligible manner (as we are

well aware it does) there are other places in all respects fully equal; and, above all, let them not forget that unless they continue still further to improve their stakes, cups, &c., they will have to encounter an overpowering rival in Liverpool; where everything is well got together, and conducted upon the most liberal plan. As the annual meetings of York and Liverpool take place about the same periods, it is natural enough and reasonable enough, that the owners of horses should be anxious to start their nags for the best prizes; so that it may be clearly perceived, unless the stakes, &c., at York amount to something like the pecuniary value of those at Liverpool, many of the horses will be taken to the latter place, which might, under other circumstances, have appeared at the former.

The readers of our publication will not have forgotten the challenge issued by the Marquis of Westminster (in 1835), his horse Touchstone against any other, which met with no acceptance. Touchstone is an excellent horse, perhaps the best racer at this moment in existence; in the early part of his career doubts were entertained as to his "training on," a circumstance common enough in large over-grown two-year olds; and on this account Touchstone sustained defeat several times, though he afterwards beat his successful opponents with the greatest ease; the fact is, when he ran unsuccessfully, he was not "up to the mark." However, when Touchstone reached an age sufficient to dissipate the previously existing doubts as to his legs, his noble owner thought him (and justly so, we believe) the best horse on the turf; hence the general challenge. Many persons were of opinion Rockingham ought to have accepted the challenge; but his subsequent running (particularly for the Ascot Cup, where Touchstone cantered away from him) has very clearly shown that he would have proved no match for so formidable a rival. However, if our information be correct, Mr. Mostyn has conveyed a hint to the Marquis of Westminster, that he will run Queen of Trumps against Touchstone for 1000 sovereigns. The career of this remarkably fine mare has completely shown that her racing powers are equal, if not superior, to those of any mare which ever appeared on the course, not forgetting the celebrated Eleanor, winner of the Derby and the Oaks in 1801. Had Queen of Trumps been named and come out for the Derby in 1835, in which year she won the Oaks, no doubt can be entertained that she would have carried off the prize with the greatest ease: what could Mundig have done against her, even though assisted with the powerful persuasion of Will. Scott? Nothing. Therefore, had Queen of Trumps come out for the Derby, she would have done what was

never yet accomplished by a racer—she would have won the Derby, the Oaks, and the Great St. Leger.

The genuine operations of the race course ceased some time since, and thus a greater interest to prospective or forthcoming events is necessarily imparted, particularly in regard to the Derby; for which a greater number of candidates than usual has been backed, and upon which stake, taken in the aggregate, much more money than ordinary has been adventured, at least up to the present period. Winter may alter the aspect of things, and on the arrival of spring the betting list may present a very different complexion to that which it exhibits at this moment; we say that it *may*, but we do not assert that it *will*, the season just mentioned being inimical to the welfare of the racer. From the suddenness and severity with which winter made its unusually early appearance, accompanied by collateral indications of a continuance of hard weather, we anticipated very different atmospherical influence than that which the humid mildness of November and even December, till Christmas, was calculated to impart, when a heavy fall of snow, accompanied with severe frost, suspended the regular exercise of the racer. However, as we are not more than half through the dreary period mentioned above, we shall suspend further remarks upon this particular part of our disquisition.

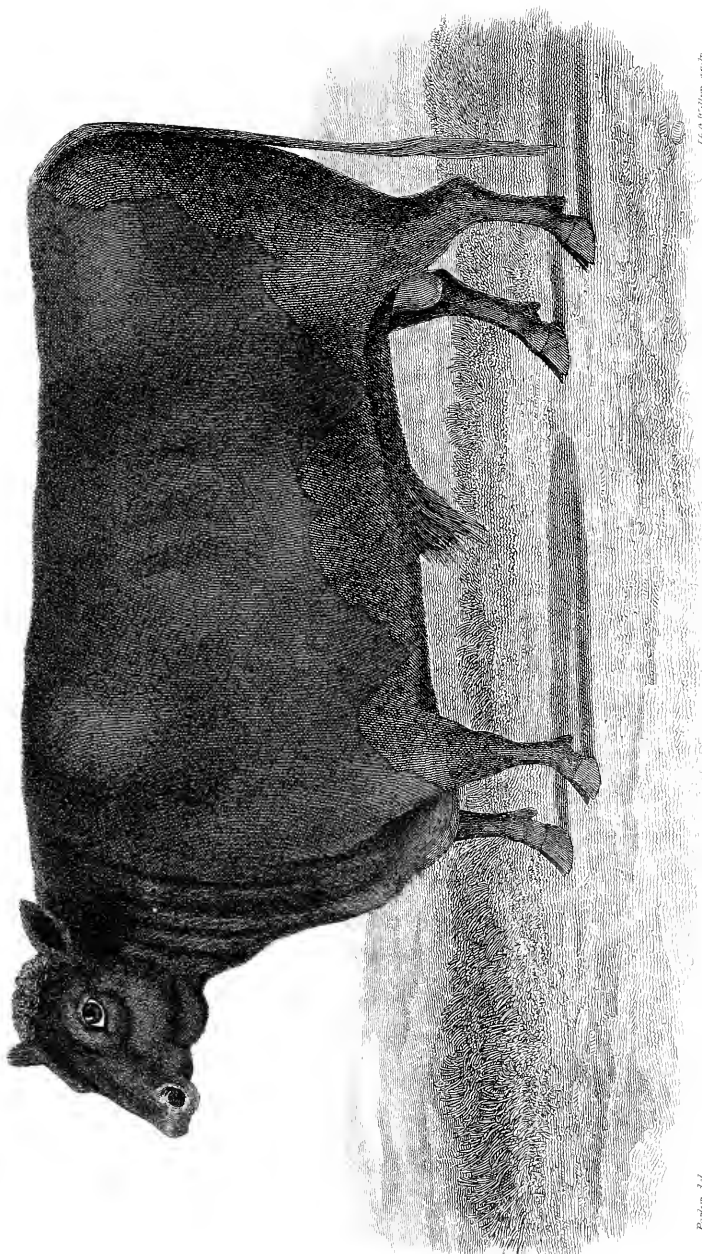
Nothing very remarkable took place in the metropolitan betting in the early part of last month; the individual estimate of the various nags whose names appeared in the list of the odds, continued much the same as our quotation given last month; indeed no very material alterations occurred in the market prices up to the moment of writing these observations. On Thursday, Dec. 15, the assemblage at the Subscription Room entered upon business with unwonted energy, and some heavy betting took place: the proceedings of the meeting were highly interesting, more however from the spirit of enterprize which was rendered manifest than from the very trifling alterations effected in the odds: the following presents a *coup d'œil* of the business of the afternoon:—

A variety of bets were booked upon Defender (to a considerable aggregate amount) the odds against him varying from 8 to 1, 8½ to 1, and 8¼ to 1.

9 to 1 agst. Jereed (in hundreds)
 18 — 1 — Phantasima colt (in hundreds)
 20 — 1 — Wintonian (in fifties)
 20 — 1 — Mango (in hundreds) (21 to 1 had been previously obtained,
 145 — 1 — Mr. Walker's Glider (900 to 20)
 01 — 1 — Mr. Theobald's colt by Mameluke (1600 to 10)
 10 — 1 — Flare-up and Phantasima colt (1000 to 100)
 13 — 1 — Wintonian and Clifton (400 to 30)
 13 — 1 — Mango and Cartoon (400 to 30)
 12 — 10 — The field agst. Brother to Bay Middleton, Defender, Jereed, Dardanelles, Phantasima colt, and Flare-up. (1200 to 1000)
 500 even Mango agst. Flare-up.
 500 even Dardanelles agst. the Phantasima colt.

The pretensions of several of the candidates whose names appear in the betting list for the Derby must be supported from private in-

telligence, as they have not shown in public, Brother to Bay Middleton amongst the number, who on this occasion was scarcely mentioned individually. Private trial has more than once proved fallacious, and can in fact seldom be implicitly relied on. Frampton's celebrated ruse in regard to private trial, though not bearing full on the present question, shows the little dependance to be placed on such a mode of founding an opinion: we will briefly relate it by way of enlivening the dry detail of a dull chapter, should it answer no other purpose. A celebrated horse, called Merlin, was matched for a considerable sum of money, to run against a favourite horse of Mr. Frampton's, at Newmarket. Immediately on the match being closed there was great betting amongst the North and South country gentlemen. After Merlin had been some time at Newmarket, under the care of a person named Heseltine, Mr. Frampton's groom endeavoured to bring him over to run the two horses a *private trial* at the stated weights and distance agreed upon in the match; observing, by that means they might both make their fortunes. Heseltine refused, but in such a manner as to give the other hopes of bringing him over to his views. In the mean while Heseltine took the opportunity of communicating by letter into Yorkshire, the proposed offer to Sir W. Strickland, Bart. who was principally concerned in making the match. Sir William returned for answer, that he might accept it; and instructed Heseltine to be sure to deceive his competitor by letting Merlin carry seven pounds more weight than that agreed upon, and at the same time laying a particular injunction to secrecy. Soon after Heseltine received this hint, he consented to the proposal; however, in the mean time Mr. Frampton had given his groom instructions precisely similar. The two horses were prepared, started, and ran over the course agreed upon in the articles of the match; when Merlin beat his antagonist about half a length, after a severe struggle. This being communicated to each party by their grooms, each was flattered with certain success: Merlin's friends observing that as he had beaten the other with seven pounds more weight, he would win his race easily. On the other hand, says Mr. Frampton, as my horse ran Merlin so near with seven pounds extra on his back, he must win the race. Immediately after, bets were made to an enormous amount: and it has been asserted that there was more money sported on this event, than had ever been previously known, many not only risking all their cash, but their other property also. At length the important hour arrived for the decision of the momentous event. The horses started, and the race was won by Merlin by about the same length as in the secret trial. In a short time after, it became known, to the mortification of its inventor, Tregonwell Frampton, Esq.



After Walker's copy.

A POLLED ANGUS BULL,

The property of Mr. Watson of Kailor, Scotland, exhibited at the meeting of the Highland Society, held at Perth, Oct. 7, 1836.

London, Published by A. R. Spence, Feb. 7, 1837.

Engr. Ed.

THE FARMER'S MAGAZINE.

FEBRUARY, 1837.

No. 2.]

[VOL. VI.

THE PLATE.

The subject of the Plate is a Polled Angus Bull, the property of Mr. Watson, of Keillor, in Scotland, exhibited at the Meeting of the Highland Society, held at Perth, on the 7th October, 1836, and for which he obtained a Premium, besides an Honorary Premium for being the breeder of the best Bull in this class. For a description of the nature and peculiarities of the Polled Angus breed, we refer our readers to a valuable article by Mr. Dickson, of Edinburgh, and which will be found in the Fourth Volume of *The Farmer's Magazine*, Page 23.

THE BLACK CATERPILLAR.

ON THE HISTORY, RAVAGES, TRANSFORMATIONS, AND HABITS OF THE BLACK CATERPILLAR, SO DESTRUCTIVE TO THE TURNIP CROP THE TWO LAST YEARS, WITH OBSERVATIONS ON THE PROBABILITIES OF ITS FUTURE ATTACKS.

BY MR. M. M. MILBURN.

Considerable sensation was produced last year in the agricultural world, by the re-appearance of that formidable enemy to the turnip crop, the black caterpillar, Black Jack, Canker, Negro, or Turnip-tenthredo, as it is indiscriminately called. Every farmer knows the value of that crop, both to the successful fattening of his cattle, and the future condition of the soil too well, not to be alarmed at so sudden and unexpected an attack. Some of his fears however might doubtless be allayed, were he perfectly acquainted with the natural history of the enemy, as it might lead him to view them in their real character, as well as suggest some means for their destruction, at the period of their existence when they were the most susceptible of it, and although the following article may not elucidate the whole of the history of this wonderful pest, it may at least throw some new light upon the subject, which will perhaps not be altogether useless, and may perhaps be somewhat interesting.

Wonderful as the work of the creation of two hundred and thirty species of animals, one thousand of birds, one hundred of amphibious animals, five hundred of fishes, and two thousand of insects, it must be manifest that their constant preservation in their relative proportions, and relations, must be not less stupendous, so many of these subsisting and depending upon one another for existence. The Omnipotent Creator, has evidently provided that every branch of creation should furnish the greatest possible amount of enjoyment, and while he has provided this, and assigned to every ramification of it some peculiar degree of usefulness, he has ordained that no one part shall so overrun the rest, as to destroy the beautiful harmony of the whole. The moth for instance, will lay from fifty to five hundred eggs, and it might be conceived that this would soon

populate the air, but her brood has enemies, in proportion to her productiveness;—a single sparrow according to Barnet, will eat five thousand caterpillars per day, and carnivorous birds and animals, produce much fewer young than those designed for their food-herbivorous; while an abundance of the latter, invariably secures a proportionate fertility in the former. This is maintaining what may very properly be called the balance of creation. When the land of Canaan was given to the Israelites, they were commanded to “drive out their enemies by little and little, lest the wild beast should increase upon them,” and this is a beautiful development of the principle on which the God of Nature governs creation. The same proportion is necessary, and is maintained, between the animal and vegetable kingdoms. “Carbonic-acid gas, is formed in a variety of processes of fermentation, and combustion, and in the respiration of animals, and yet no other process is known in nature, by which it can be consumed except vegetation. Animals produce a substance which appears to be a necessary food of vegetables; vegetables evolve a principle necessary to the existence of animals, and these different classes of beings seem to be thus connected together in the exercise of their living functions, and to a certain extent made to depend on each other for existence.”* The introduction of turnips, and subsequently their extension as a crop, has doubtless afforded a source of multiplication to their natural enemies, proportionate in some degree to their own. It may not accord with the artificial views of the farmer or gardener, but the occasional destruction of his turnips, his cabbages, his apples, or his beans, is a link in the chain of the operations of nature.

The introduction of wheat into America, and its rapid extension, and luxuriant growth, were arrested by the appearance of an insect, the Hessian Fly, which appeared in Long Island, in 1796, and spread through a large extent of country, and this year threatened to destroy the crops, and did serious injury, which is felt principally in Canada. The hop and the bean are sometimes destroyed by the aphid,

* Sir Humphrey Davy's Lecture on Agricultural Chemistry.—Lecture 1, p. 15.

and it is a circumstance over which the cultivator can have no control, and which he can neither foresee nor prevent. In the land of Judea, famous for its fertility, luxuriance, and the rapidity of its vegetation, the voracious army of locusts "destroyed every green herb," along with its congeners the ranke-worm, and the palmer-worm: "your olive trees increased, and the palmer-worm devoured them," is an expression, which proves the correctness of our observations. In other words, the insects were sent to prevent the excess of vegetation, and as suddenly and as unexpectedly, as the locusts, the "great northern army," came in Palestine, do the aphids, and the caterpillar appear in Britain, and as destructive in some respects are their effects upon the crops.

HISTORY AND RAVAGES.—Of all agricultural plants the turnip appears to have the greatest number of enemies, and were it not that it is the foundation of all good husbandry, and the source of all productiveness to light sandy soils, which otherwise would be comparatively worthless, it would doubtless be given up as a field crop, but such being the case, the farmer must cultivate it at all hazard. Its first enemy is a small jumping beetle, well known by the name of the turnip fly, (*Haltica nemorum* Illiger) which infest it on the first appearance of the seed leaves; four or five root weevils and grubs, especially the wire worm; two or three caterpillars, especially those of the white butterfly, (*Ponra Brassicæ*), which are green or speckled; slugs; the plant louse, (*aphis*); and lastly by the insects in question,—the caterpillar of the turnip-*tenthredo* or saw fly. The latter insect is of the order *Hymenoptera*, family *Tenthredinæ*, and is the *Athalia centifolia*. Unfortunately we are but little acquainted with past visitations, which are periodical, from the want of any system of communication amongst agriculturists in the earlier periods of husbandry, but which was happily supplied by the Board of Agriculture and now by the various agricultural periodicals,—the most valuable sources of raising agriculture in the scale of intelligence. Upon the authority of Mr. Yarrel, which I offer for the above nomenclature of the insect, it was first noticed by Pangen. The first notice of it I have met with, was about 1762 in Norfolk, and except that Hale mentions it in his "*Complete Body of Husbandry*," published in 1756, where it is spoken of as an insect commonly known to turnip growers; and at a period when turnips were beginning to be extended as a field crop. Again it made its appearance in vast numbers in 1782, and the succeeding year, and even to the second year afterwards it continued to commit its ravages. At this period a very circumstantial account of its depredations was given by Marshall, and thousands of acres were ploughed up, owing to their ravages; indeed three-fourths of the turnips were completely destroyed by them. The yellow flies, the parents of the caterpillars, made their appearance in the beginning of July, or the end of June, and were supposed to have come over in a flight from Norway. One individual describes them as coming in "clouds so as to darken the air," and they appeared on the sea coasts about Cromer and Beckhithe, where they alighted on the shore in such numbers, "that they might be taken up by shovel fulls," at least so said the inhabitants. Other fishermen saw them some distance off the coast, and upon the water, in vast numbers. They appeared again, and caused considerable alarm in 1806, and again in 1818, of which two visitations I happen to have no circumstantial account, until 1835, when they appeared in vast numbers in Norfolk, and the rest of the southern and midland counties, and destroyed the

crop. The greatest exertions were made to eradicate them, or arrest their ravages, and the experience derived from the past years, suggested several expedients, but all were more or less ineffectual, and the crop was all but lost. In West Sussex nearly all were carried off; in Devonshire they were equally destroyed. In Cornwall the attack commenced on the 10th of August, the second brood I presume, and they succeeded in destroying three-fourths of the yellow and white turnips. Here the Swedes in a great measure escaped. They disappeared here on the 25th of August, which was attributed to the rain. Their ravages in Suffolk and Bedfordshire were also severely felt, and in the latter county whole fields had not as many turnips as there were acres in the field. Complaints were also made in Oxfordshire, and the early sown ones were the best. They did not spread so far as Yorkshire, except a few in the East Riding, and none in Scotland.

In 1836, however, while the attack was slighter in the southern and midland counties, they advanced much farther north, and their effects were felt to a considerable extent in Yorkshire, Durham, Cumberland, and in Scotland. From Norfolk we have the most circumstantial account. The yellow fly—the parent as will afterwards be shown of the caterpillar—made its appearance on the 10th of June on the eastern coast, and upon the sandbanks, which were literally covered with them. On the 14th of July, the larvæ commenced their attack at Bury, they were said to have attacked the mangels—a circumstance however, which must be much better attested before I can credit it. This season they attacked the Swedes, and Mr. Coke, of Holkham, lost 200 acres by them. In Bedfordshire, the crop was partially affected. They appeared in Lincolnshire for the first time since the attack thirty years ago, and in Yorkshire the caterpillars were first observed on the 15th of July. At the latter part of the same month they appeared in Dumfriesshire, and other parts of Scotland, but here did little damage, owing to the early setting in of the cold. They usually commenced their depredations on the healthiest plants, and so completely did they prevail that they generally succeeded in stripping the leaves in ten or twelve days, the period during which the first broods remained in the caterpillar state. They eat only the interior portions of the leaf, and left the nervures and fibrous portions: for some plants this was too much, and they died; but such as had attained any considerable degree of strength of root, or were forced by rich manure overcame the attack, but were interrupted in their growth by at least three weeks, and had they continued their ravages another week, the loss would have been dreadful. Some persons entertained the idea that they had dropped from the clouds, for instances occurred when a field was examined and pronounced clear, which in a few days was literally covered with them. Sometimes, at certain periods of the day, or particular states of the weather, they seemed partly to have disappeared, but on a second examination, they were as numerous as ever. The first sown fields were chiefly infested, while the later sown ones,—such for instance as had the seed put in about the 28th or 30th of June, generally escaped. A field occupied by Mr. C. Yeates of Thorpfield, which was sown early, and the plants were particularly luxuriant, was the worst attacked of any in the neighbourhood where I reside. I counted as many as nineteen upon a single plant,—the efforts to destroy them and save the crop, were most vigorous, and it was saved. About the 1st of August they simultaneously disappeared, and the impression was, that they had "taken wing," which to

the careless observer might be plausible enough, but as usual in the case of vulgar speculators of this nature, was quite erroneous.

From this cursory sketch it appears that their visits are periodical,—at least during the intervals they are not sufficiently numerous to attract observation or create alarm, that they continued for about two or three years, diminishing in numbers each successive year, the most appearing the first season, and then again appearing only in so small numbers as to escape notice.

It becomes an interesting question, to enquire how they happen to be so very numerous in one season, when they are not observed in several successive seasons, when they reappear. The theory adopted in 1782 by Marshall, and afterwards pretty generally received by agricultural writers, is, that they come in flights across the British Channel from Norway, and Marshall observed that a flight might come driven by the wind alone, in ten hours. To the admission of this theory it is necessary that a south west wind should blow, at or near the turnip season in each "canker year." If no exotic flights arrive, "says Marshall," the few which survive the winter here, escape in a manner unnoticed, and the plants receive no perceptible injury, but when to these foreign swarms are added, their progeny becomes too powerful for the plants, and the devastation becomes conspicuous and alarming, producing that dreadful calamity to the country, 'a canker year.' In support of these views, he produces the assertions of the fishermen above quoted. This theory is I think quite erroneous. In the first place, we have no evidence that the flies exist in Norway, to the extent to warrant the belief that such immense numbers could come across the Channel, and if they did, it must have been a well known fact. Besides, how upon this principle do we so soon lose them, and if as Marshall supposed, only a few escape the effects of our winter, how have any happened to escape the severity of the Norwegian winter? Provided they were shewn to exist there, how are we to account for them thus allowing themselves to face the great expanse of waters, or are they to wait for certain favourable gales of wind to transport them across it? The contrary evidence seems to be, that we never find them flying far;—seldom more than a few yards, one must have had accounts of such immense "clouds of insects" on the opposite shores, if they had come from Norway. The evidence of the fishermen however does not establish much, for they are seldom close observers of nature; the collection of the flies on the beach may easily be accounted for by supposing them emanating from their cocoons when they might be disposed to burrow from the looseness of the texture of the sands, when in their caterpillar state, in preference to the more solid cultivated fields, or the flies might have collected together after having deposited their eggs, and perish in the water. The locusts actuated by some mysterious sensation invariably direct their progress to the sea previous to their dissolution, and even followed the course of some river, as if anxious to find a grave in the ocean, or which is beautifully described by the Prophet Joel ch. 2, v. 20. "I will remove far off from you, the northern army, and will drive him into a land barren and desolate, with his face towards the east sea, and his hinder part towards the utmost sea, and his stink shall come up &c." It is observed by that most profound and intelligent naturalist, Professor Rennie, that before dissolution insects manifest a passionate de-

sire for change. Mr. Lindly observed a large flight of butterflies in Brazil, which flew in a straight line, and must inevitably perish in the sea. Mr. Jonah Waites of Sowerby, a respectable and intelligent farmer, observed in August last, some thousands of butterflies congregated, and proceeding in an easterly direction, not one of which was to be seen either before or afterwards, so that it is nothing very extraordinary to see large flights of insects, but it is no evidence that they are exotic. The yellow flies (*Ashalia centifolia*) the progenitors of the caterpillars, were noticed last year on the sandbanks on the Norfolk coast the 10th of June, and before any caterpillars appeared and had doubtless just emerged from their cocoons as before supposed.

But how are we to account for these capricious visitations? Have we been removing one difficulty simply to raise another? If we admit that we are never quite clear of the insects, the same difficulty attaches itself to account for the abundance of other insects of various kinds, which appear one year in myriads, and are again unnoticed for years to come. Thus the aphides will appear in swarms one year, and destroy the hops, or other plants, while in other years no such thing is to be seen. Sometimes the turnip fly (*altica nemorum*) takes off the plants, while in other seasons they comparatively escape; the only law which we can lay down which approximates to a season, is that alluded to in the outset—the maintenance of the balance of creation, and its fair proportions constantly maintained by a series of natural enemies to the different classes of beings, *ad infinitum* to which we shall allude in a subsequent part of this article. The abundance of a plant causes an abundant production of its enemies,—these are also assailed by their natural enemies which so thin their ranks as to require years to regain their usual numbers, giving time also for the reproduction of the vegetable on which they feed. Thus animated nature, like every portion of creation, contains within itself the elements of its own destruction, and like inorganic matter, decomposition and reproduction, go on and follow each other;—a process so astonishing and wonderful as to stamp upon it the character of immediate design and direction by the All Powerful Creator of the whole.

TRANSFORMATIONS AND HABITS. The general appearance of the caterpillars at the commencement, was the discovery of one in a plant, in a few more days two or three dozen might be found, and ultimately the plants were literally covered. The earliest sown, and most healthy plants, were first attacked, and in some of the northern counties the later sown ones entirely escaped. The caterpillar when first discovered, was about three eighths of an inch in length, and of a deep and shining black. The head is smooth when examined by the naked eye, but is studded with a few hairs as proved by examination by the microscope. It has five eyes—two large ones (*compound*) at each side of the head and three smaller ones (*simple*) placed in a triangle in front. Like most of the saw fly (*teuthredes*) caterpillars, it has twenty legs. The three on each side nearest the head, the part which answers to the thorax of the perfect insect, are longer than the rest, and barbed, to enable it to lay hold of the extremities of the leaf, and fourteen shorter ones, calculated for clinging to smooth surfaces; the caterpillar will creep along a smooth glass jar with perfect ease and facility, without spinning a ladder of silk as was the case with a green caterpillar, which I collected from a turnip plant. The colour of the body as was

observed is a jet black without hairs, (which distinguishes it from the nettle gregarious caterpillar, for which it has sometimes been mistaken,) it is however considerably wrinkled. The shanks (*tarsi*) at their junction with the body, are of a transparent jelly-like character. Just above the vent (*anus*), is a protuberance from which there seems to exude a glutinous matter. When the insect is disturbed it immediately drops from the plant, but being designed to feed on plants which never grow high above the ground, it is not furnished with its silken rope to enable it to let itself down with safety; when it drops it coils itself into a circle, when it lays still for a few moments, and is not easily detected, but if undisturbed for a few seconds it begins to crawl up the plant, and soon eats voraciously. One circumstance connected with the habits of these insects has caused much misapprehension. Fields have been carefully examined and scarcely a dozen insects have been found, and the fields have been pronounced clear,—in a few hours they have been again looked over and millions were visible. About ten o'clock in the morning, if the sun shines—again at twelve and at five in the afternoon, they were chiefly to be seen, and after a shower of rain they were unusually numerous. Upon close examination the earth was found perforated by thousands of small holes, and sometimes they might be detected burrowing into the earth. I confined some in glass jars for the purpose of observing their habits, and fed them with fresh turnip leaves, placing a little damp earth at the bottom of the glass, into which they burrowed after feeding. This settled the question, which was much disputed; from the burrows retaining their form when the earth was dried, I concluded that they cemented the particles of earth with some glutinous matter. When in the caterpillar state the rain made no impression on the secure and waterproof texture of their skins, and when immersed in water, they swam with the utmost ease, and the water glided off them as if they were covered with some oleaginous coating. This of course quite exploded the popular idea that the rain destroyed them. At one period of their existence they change their skins. In order to effect this they wander up some plant, generally some weed, and appear motionless. They are however attached to the plant by means of attaching their glutinous excrement above described, to some portion of it which causes a ready adherence to it. The skin divides near the head, and the insect creeps out, leaves its old skin, and appears of a lighter colour, it is slaty green; in a few more days however it grows darker in colour, and soon changes this skin in the same manner, and at each change grows somewhat thicker, and rather diminished in length. This it does at least four times, during its existence in the larva state. Before each change it ceases to eat and looks dull and inactive. On the 31st of July the caterpillars which I had collected on the 25th, all completely disappeared, my turnip leaves were untouched, and fifteen days from the first appearance of the insects in Yorkshire, they all simultaneously left the plants, New fancies were now adopted, and as in the above case of the Norfolk fishermen, took the place of observation and facts;—it was generally asserted, —and generally believed, that they had flown away, although not one of them had yet a wing to fly with! On examining my confined caterpillars I found them beautifully enveloped in a safe waterproof cocoon, which could only be distinguished from a little clod of earth, by its peculiar rattle. On opening it the particles of earth seemed united

by glue, and the inside was as smooth as varnish. Here the caterpillar was imbedded, for it was still a caterpillar, but it had somewhat altered its form,—immediately behind the head the body was considerably elevated,—it more resembled the wingless fly—its extremities were grown smaller. After twenty days imprisonment a yellow fly made its appearance. I have never witnessed it in the pupa state but am not certain that it does not exist. I examined one which had been enveloped three or four days, and another which had been confined eight or nine weeks, but both were in the state above described. The Fly on emerging somewhat resembled the dung fly, but was considerably smaller, and of a brighter yellow. The head was black, and had eyes corresponding with those described in the caterpillar; the ears (*antennæ*) were black and serrated; the thorax yellow, with two triangular amber spots at the junction of the wings: the wings were four in number, transparent, and nervous, like those of the dragon fly; legs, six, of a dull yellow, and some amber spots, the abdomen is a bright yellow, but is hidden by the wings, which are longer than the body of the fly. These characteristics apply to both the male and female, except the male is smaller. The female has a curious apparatus, which is the distinguishing characteristic of the family to which the fly belongs—its *saw*. It is concealed in a sheath, from which it can be withdrawn at the will of the fly, or by pressure on the under side of the abdomen: the saw was, as may be supposed, serrated: this may possibly by some be considered a sting, but it is never used as an instrument of defence; its use is to enable it to deposit its eggs in a situation where they will be protected, and find sufficiency of food—it is its *ovi-positor*. In three or four days after, the first of my confined caterpillars made its appearance in the fly (*imago*) form, seven of the ten followed it, similarly transformed: the same process had taken place in the fields, hundreds of similar flies were to be seen upon the turnips: none of my flies, however, deposited any eggs; they never eat anything, but sipped the dew from the fresh leaves with which they were supplied.

I attribute their failure of propagation to the weather, which was dull, wet, and cold; the latter they could not bear, and were only lively when the sun shone brightly. By the 8th of October, seventeen days from the appearance of the first fly, the whole were dead, but I believe not one egg had been deposited either in my jar or in the fields, for the most careful and minute search failed in discovering any, and no subsequent brood ever appeared. So many flies therefore as did emerge may be considered destroyed, and no fear need arise from their successive generations' depredations. The weather, I repeat, was very cold, and seldom any sunshine took place. More southward, however they were not equally fortunate, the weather being warmer, they had deposited their *ova*, and they appeared a second army to destroy the crop: this was the case, particularly in Glamorganshire. The influence of heat and dryness in hastening the development of the perfect insect, and of cold and damp in retarding it, is well known in the natural history of insects. Reaumur could lessen the period of their confinement in the pupa case by months, by placing them in a hot-house, and thus have butterflies sporting amongst his flowers in January, whose congeners in the fields did not appear until July, and he retarded the appearance of others twelve months by keeping them in a cold damp cellar. The greater warmth of the southern counties of England might thus possibly cause a

greater proportion of the inclosed caterpillars to emerge as flies than was the case in Yorkshire, as well as favour the propagation of another brood.

ARTIFICIAL METHODS OF DESTRUCTION.—All the inventive energies of the farmers were set to work to discover some method for their destruction; some used applications of various kinds, but a slight examination of the skin of the caterpillar will show that any application not highly caustic can be of little avail. Lime was at first a favourite application, but produced no impression upon them, and in the midst of salt or saline mixtures, they were perfectly healthy. Soot did not seem at all noxious to them, nor did any application of it to the plants deter them from eating them. In some cases that dangerous and expensive poison arsenic was dredged on the plants, but subsequent experience proved, that when it was done in sufficient quantities to produce the death of the insect, it also destroyed the plants. A very respectable and intelligent observer informed me, that a solution of oil of vitriol made no sensible impression, indeed this might be conjectured from their skins resisting the action of water. Oil certainly did destroy them when they were completely covered with it, by stopping breathing valves (*sphinxacles*) of the insect, but it also destroyed the plants, and its application was impracticable. Indeed any superficial application must be very expensive and tedious, besides being of doubtful utility. Some strewed elder branches over the fields, knowing that the peculiar aroma of that shrub is much disliked by many insects, and one person declared that they left his field when he did it: now the probability is, that this had been about the period of their burrowing before they changed into the fly state, for experiment decides that they eat with avidity leaves which are strongly impregnated with elder. An enemy of which advantage was taken by the farmers was ducks. I happened to have a considerable number at the time they were committing their ravages, and turned them on, but they quite neglected the caterpillars, but eat the turnips voraciously. This was repeated several times, and with the same results. Corn was scattered over the ground, they eat up the corn, and speedily began to consume the turnips. It should, however, be stated, that the ducks were full grown, and had been fed partly on greens, but the most striking fact connected with them was, that they even refused them when they were gathered and scattered before them. Young ducks of, say from three to six weeks old, were, however, found very useful. I am informed by T. T. Barton, Esq., of Sowerby, that his fields were cleared by young ducks. They were fed with corn in the evenings, and went into the fields in the morning hungry, and in proof that the caterpillars knew favourite food they escaped from the place in which they were confined and during the night on one occasion went directly to the field. I also witnessed some of the age above mentioned, which searched for them beautifully. I was assured however, by W. Roccliffe, Esq., M.D., of Easingwold, that it was useful to scatter corn amongst the turnips, until the birds had become acquainted with the caterpillars. Fowls were also recommended, and may possibly pick a few, but are not sufficiently of a rambling disposition to be of much service. Of the *natural enemies* of the insects I know but little, but shall refer to the subject afterwards. Rooks have been mentioned, but to the truth of this I am not able to speak, my observations have certainly not gone to establish the fact, but I know that they make sad havoc in tearing up the turnip plants, in search of the wire worm. The caterpillars are however different in appearance from the gene-

rality of their food, and they cannot form any regular source of supply. Swallows are their greatest enemies when in the fly state, they may be seen skimming over the turnip fields, and the flies which always fly up when anything approaches them, are thus an easy prey to these beautiful birds.

We next advert to another means used for their destruction—the mechanical, which were of various kinds. Rolling has been a favourite operation, both in this and previous visitations. It is attended however with the serious disadvantage of crushing the plants, and bruising the foliage, and in dry weather must be very injurious to their growth. It is also doubtful whether it is of great service. On loose soils it will destroy very few of the insects. I have stamped upon them, and it did not seem to do them any injury when the soil gave way. On more tenacious soils it may be of most advantage, but these are the least attacked, and on them rolling will do the most injury to the plants. The small number destroyed would never compensate for the injury done to the crop. Some farmers employed persons to dash them from the plants with twigs, or go down the furrows, and drag a rope over the ridges three times a day; a plan which a moment's reference to the habits of the insect would show to be completely useless,—they would re-ascend the plants, and commence eating, before the persons had proceeded two hundred yards from them. This reminds me of what I once witnessed. Two boys were employed in destroying them, and after carefully dashing them from the turnips, covered them over with soil, quite assured that he had “done for them,” never reflecting or supposing, that he was placing them in the natural element for their protection; as well might he have attempted to drown a fish, by putting it into the water!

A very efficient method of destroying them was employed by Mr. Edward Saddler of Sowerby, but which can only be of use when the turnips are sown in ridges. He employed a number of work people to dash them from the plants with green twigs, and as they proceeded to kill as many as they could with their feet. This was on a *rather tenacious soil*. They were followed by a person with a scuffer, and by this means the field was cleared. But decidedly the most certain, safe, and perhaps all things considered, the cheapest, though perhaps rather tedious method, is to have them *hand picked*. For this purpose a number of boys may be employed under the superintendance of an active person. Each must be furnished with a small tin, and some covered vessel must be kept to empty their tins into occasionally, or they will crawl out, for as it has been observed they crawl easily on a smooth surface, and soon begin to stir when they find themselves amidst a number of their congeners, even if shaken off frequently. The most expeditious plan is, not to examine every plant, but take such as are visible in passing over the field, and only two or three ridges should be taken at a time, according to the number of the gatherers and insects. When once gone over, they should commence where they began at first, and go over it again, until no more appear. I witnessed a field which was terribly eaten, and was cleared in this manner, and the efficiency of the plan was proved by the fact, that while there were abundance of the yellow flies in the neighbouring fields, in this few or none could be seen. The plan may seem tedious, but under ordinary circumstances it may be done for 2s 6d to 4s per acre, a very small sum in comparison to the loss of the crop.

PROBABILITIES OF FUTURE ATTACKS.—This portion of the subject comprises an interesting branch of

entomology, and one in which the agriculturist is immediately concerned, but it is unfortunately one upon which little accurate information can be obtained; and following out my previous observations I may remark, that little more than conjecture and analogy, can supply us with data to reason upon. We know that the attacks of most insects are very capricious. Some seasons our thorn hedges, and our gooseberry bushes, are literally covered with caterpillars and rendered leafless, which without any perceptible cause in the weather, the next year when it would seem the production would be enormous, not one is to be seen. In 1827, the caterpillar of the cabbage butterfly (*Pontia Brassicæ*) attacked the turnips. Some are now before me, both in the butterfly and chrysalis form, which I collected from a turnip plant and kept through all its changes, while other years they attack the cabbages, cauliflowers, &c. Some clue however to this great variation in numbers may be obtained from the facts of their having certain natural enemies, which deposit their eggs in the body of the caterpillar and feed upon it, but have instinct sufficient to avoid eating its vitals, until it enters its chrysalis state, when they destroy it, and instead of the butterfly comes out the parasite flies (*Ichneumon*) again to feed on the caterpillars. So has Providence provided a destroyer to the devourers, which otherwise would soon become so numerous as to populate the air, and annihilate vegetation, and thus all creation is kept in its due and legitimate bounds. The wheat fly appeared in 1829 in Scotland, and created the most fearful apprehension, but it was soon discovered that they were again followed by a host of ichneumons which completely extirpated them. Thus the aphides are always accompanied by certain destroyers, *syrrphi*, *hemerobi*, and the Lady Bird; in speaking of the latter, that interesting naturalist Kirby remarks, "If we could only discover a mode of increasing these insects at will, we might not only as Dr. Darwin has suggested, clear our hot-houses of aphides by their means, but render our crops of hops much more certain than they now are."

Now though I have not succeeded in observing any parasite peculiar to the black caterpillar, it is a probability amounting almost to a certainty, that they do follow, and the fact that they never appear more than two or three years at one time, goes far to prove it. I confined a black caterpillar with a beautiful red ichneumon, and in the morning the caterpillar was dead. I merely state the fact, and leave others either to follow it out or deduce arguments from it. The seasons are perhaps too much blamed for causing an excess of these and other insects, and the absence of severe winters is assigned by some, as a season for their abundance, but a little reflection shows this to be erroneous. If this was the case all insects would be more numerous each successive year, which we find is not the case, and it is certainly owing to no peculiarity of season, that an abundance or scarcity of any particular class of insects can be traced, and knowing that any degree of cold from 2° to 20° below the freezing point, does not destroy insects' eggs, we cannot suppose that any severity of ordinary winters would destroy them. In this case I think there is no fear of any eggs remaining over the winter; the fly takes care to deposit them in the interior of the leaf of the turnip, where they will be supplied with plenty of food when they emerge, but we know that the whole of the present turnips will be destroyed before any more are sown, so that the larvæ must perish for want of food if so left. Those still buried in their cocoons are too secure, and too deep in the earth, to be affected by the win-

ter. In 1835 they were very numerous in the South of England, and unobserved in the North; in 1836 they were less numerous, but more generally spread; next year we may expect I think a still slighter attack, and it is probable that in 1838 we shall be freed from their ravages altogether for several years; or at least if they continue with us, will be in so small numbers, as to do no injury, and attract not observation. Mr. Salisbury says a gardener in Chelsea took a nest of moths and bred them, some of the caterpillars came out the first, some the second, and some not until the third year. This may perhaps account for their continuance for two or three years, supposing their enemies to destroy the first brood. If those in the open air entered into the fly state in the same proportion as mine did, which I had confined, it would be seven-tenths of the whole, and as these in the north of England never propagated, and are dead, we may consider ourselves rid of so many of our dreaded enemies, especially in Yorkshire, to which this remark more particularly applies, and I am sorry to say that the farmers are not generally so observant of, and conversant with these facts, as to note the circumstances accurately in every county. To supply this, and perhaps excite a spirit of inquiry, is the object of these pages, it is to be hoped that at least they have added something to our general stock of knowledge, and if each would simply note his observations, compare and publish, agriculture would soon arrive at a degree of perfection hitherto unknown.

Thorfield, near Thirsk, Yorkshire.

AN ACCOUNT OF CONVERTING GRASS LAND INTO ARABLE,

AND RELAYING IT DOWN AGAIN INTO GRASS.

Productive meadows or grass fields are such valuable appendages to a farm, that they are rarely broken up for the sake of raising any other kind of crop which would be equally profitable. But there are many old worn out grass fields which would be vastly improved by being taken under the plough for a few years, and then laid down again.

This has been done most successfully by several eminent agriculturists, and the following is a short account of the manner in which it was executed on one occasion.

The sward was ploughed early in December to the depth of five or six inches, laying the furrows at such an angle that the harrows might have good hold, in order to raise the greatest possible depth of friable mould. The furrows were thus exposed to the frost of winter, which tended greatly to their amelioration, and caused the harrowing to be much more easily and effectually performed. The harrowing took place about the first of March, and immediately oats were sown at the rate of between 4 and 5 bushels to the acre. The varieties chosen were the potato and Poland oats, both of which succeeded admirably.

The produce was very great, the field averaging per acre a little above nine quarters, and of excellent quality.

Oats are generally mown with a scythe and bow, which lays the crop in regular swathes; these are afterwards bound in moderate sized sheaves, and set up in shocks of 10 or 12 sheaves each, and remain till ready to be carted to the rick-yard.

Soon after the oat crop is off, the stubble is ploughed and immediately harrowed down. In this state

the land lies till the beginning of November, when it receives a second ploughing, laying the ridges as rounding as possible, to throw off the winter rains. These operations effect a complete pulverization of the soil, and destroy any parts of the turf which may still be alive.

Soon as the weather is favourable the harrows are applied to level and break the surface, and beans are drilled at intervals of 27 inches. If the land has a tendency to hold moisture it is a good scheme to lay in ridges by the double-breasted plough in autumn, at similar distances between, and at the proper season in spring to sow the beans in the hollows by means of a drill-barrow, afterwards covering the seed by the double mould-board plough, which splits the ridges, then, in a week or two, to be cross-harrowed, which finishes the sowing.

The seed being laid in so widely apart in the drills, allows the horse-hoe to be used with the greatest freedom and effect; the crop has, moreover, full air, so highly necessary for increasing and maturing the pods. Three bushels of seed are required to the acre in this mode of cultivating beans. Hand-hoes go over twice, and pull up with the hand any weeds which chance to rise in the drills. The crop is reaped and bound in sheaves; the produce, when thrashed, above 40 bushels per acre.

The bean crop is succeeded by wheat, for which the bean stubble begins to be prepared as soon as it is cleared. The large scarifier is first put on, which stirs the staple as deep as the common plough. It is afterwards well harrowed, and all weeds harrowed out are hand-picked and cleared off. The seed furrow is immediately given, and laid into proper sized lands, in which state it lies till the beginning of October. It is then harrowed down, and the seed drilled at twelve-inch intervals, which is found preferable to closer drilling in most situations.

The fine and kindly state of the tilth accelerated the germination of the wheat, which came up strong and regularly, and stood the winter well. Horse-hoeing and rolling were carefully bestowed in the spring; and the crop progressed throughout the summer as well as could be wished, promising an abundant yield. The season was, however, what is called "a blighting season," and the crop did not wholly escape; but as the malady did not appear until but a few days before the wheat was ready for the sickle, the grain was not much damaged.

The wheat stubble was very soon followed up as the commencement of the preparation for turnips, and the different processes carried on as described at the beginning of these extracts. After the turnips follow barley and seeds. At this point of the proceedings it becomes the duty of the manager to determine whether the land is to be returned to permanent pasture, which, if considered perfectly clean and fit, it may be; or whether it should undergo a second course of cropping to prepare it still more thoroughly for laying down again.

If the latter plan be resolved on, then broad clover only is sowed with the barley; but if the field is to immediately returned to its original state, a suitable quantity of the best permanent pasture grasses must be sown instead of broad clover.—*British Farmer's Magazine.*

RURAL POLICE.—A mounted patrol is about to be established in the Isle of Wight as a check upon the nightly depredations which are occurring to the property of farmers and others.

CULTIVATION OF HOPS.

(FROM THE NORWICH MERCURY.)

We invite the attention of our agricultural readers, and indeed of all who are interested in the advantageous cultivation of our own county, to the communication from Mr. Crawshaw which is subjoined. We have from the first had the gratification of inspecting and attending the progress of his experiment, instituted solely for the purpose of improving the growth of the hop by reducing its culture to the general principles of gardening, and with a view to recommend its introduction into the Norfolk system of husbandry. Mr. C.'s experiments have been conducted with the generous enterprise, skill, and perseverance which mark his undertakings; and there remains no doubt that he will dispel a great deal of the mystery which has hitherto been supposed to belong to hop growing. His art is indeed simple. It consists in making the soil thoroughly permeable to air and moisture, and in treating the plant with the tender care with which a sentient existence would be treated. His success declares itself in the superiority of his sample. But the observations he has made must be of great value to growers, and we can only add, we shall be proud to make our Journal an instrument of good in his hands.

TO THE EDITOR OF THE NORWICH MERCURY.

DEAR SIR,—In my last letter to you on the subject of Hop growing, I promised you a full and true account of the result of the year's work, as to the weight and quality of the crop, &c. and my first year's experiment having closed with the *picking, drying, bagging, cutting out and exhibiting my sample*, I am now able to do so, and will therefore resume the subject from the date of my last communication, at which time the young hop, or burr, was just making its appearance. I believe every person, not only in this county, but in nearly all parts of the kingdom, will admit that a more blighting summer was never known than the one now passed; it is therefore not at all astonishing that the Hop, a plant so subject to be infested by the Aphis, should have suffered to the extent it has done in those districts where this noxious insect appeared. At Honingham, it became visible about the 12th of August on a few plants in the centre of my south garden, and so rapid was its increase that it eventually spread over nearly three fourths of the two acres planted April, 1855, and even up to the time of picking did this insect continue its ravages. I may therefore consider myself fortunate in having bagged 5 cwt. 2 qrs. 18 lbs. from those parts of the two acres which escaped the blight, because if the whole of my crop had been lost, I should have felt the great anxiety attendant on another year's growth, to prove what I have so often said, that *as good Hops could be grown in this county, as in any other part of England.* This assertion I am happy to say is no more than verified, my sample having been exhibited to the first houses in the trade in London, and being placed side by side, with the finest growths of Farnham, East and Mid Kents, the North Clays, Sussex and others, was pronounced *superior to any one of them.* The samples from East Kent this season nearly all exhibit the mischief done by the Aphis; the Mid Kents are free in most instances from this injury, as are those of Farnham and the North Clays. The Sussex grounds suffered in many parts, and the crop of this year, throughout almost all the Hop districts, may be considered as anything but a perfectly healthy one. It appears

from all we can yet ascertain relative to the history of the Aphis, that it is a mere accident as to the spots it will infest, my young and much exposed eight acres having been *entirely free from it*, while the crop on my unsheltered south and sheltered south-west gardens was almost destroyed by it. With these contradictory facts before us, we have as yet learnt nothing as to the best situation for a Hop garden. I am thoroughly convinced that neither *soil, the state of its moisture, nor situation*, has any connexion whatever with the choice of this insect's first abode, and we have to discover some means of avoiding this dire calamity. While on this branch of the subject, I think I may assert from the experience of this season, that all the light soils in this county, ay, within a few shades of the moving sand, *will grow good Hops*. I think, when last you did me the favour to inspect my young eight acres, you had ample proofs that not only the young cuttings, but the plants then bearing hops, were the most *vigorous and healthy in every instance on the sandy spots*, and further that the hops themselves, were *tight up at their points and firm from their fulness of condition and closeness of leaf*.

Since first commencing this new undertaking, I have never felt the least distrust of my abilities as a gardener to grow the Hops, but I confess I was not vain and bold enough to venture on the DRYING AND BAGGING, and therefore I hired a young man from a distance to perform *this mysterious business*, who made as complete a failure in the work as the most ignorant novice would have done. I discharged him of course, and was then left to my own resources with the remaining part of my crop still hanging on their poles. I considered the matter for two or three days, and I may say nights for you may easily imagine the then vexed and anxious state of my mind, and the result of my reflection upon the *art of drying Hops*, I summed up at last in these few words to my haliff, Wm. Sapey—" *treat the whole affair as if you were making hay in Middlesex, for the London market; give the Hops all the air you can, as much fire as the back of your hand will bear without pain when submitted to the tile, and move them often to preserve their natural colour.*" We picked on the 20th of September, loaded our kiln at six in the evening and the next morning at ten o'clock the hops were removed from the kiln to the airing floor, where they remained a sufficient time to become tough enough to stand the operation of bagging, which was performed by James Matthews, one of my young hop gardeners, and thus ended the *mysterious work of drying and bagging hops*, which has produced the sample that at present stands in the proud situation I have before named to you. All the ridiculous mystery on hop-drying being now swept away for ever, I am truly sorry I did not treat this department with the same contempt I felt towards all the other arcaica and old prejudices of hop gardening. Had I done so, I should have saved my two first kilns from the fate that awaited them. As there may be many persons who think that "*seeing is believing, but feeling's the truth,*" I shall produce my samples at our next Horticultural Exhibition, and I should esteem it as a particular favor, if any person whose connexions may enable him to obtain some of the best Surrey and Kent growths would do so, when we may again put to the test the superior quality of the Norfolk hops.

I cannot leave this subject without adverting to one point, which as a gardener I consider a most important one. It is well known that the hop plant at picking time is *cut down* at about two feet from the earth, the pole raised, and delivered up to the pick-

ers. Upon this operation I have to remark, that all the sap in the bind and leaf which would descend and be condensed in the enormous spongy roots of this plant, is *entirely lost*, and that the binds of the succeeding spring must be weakened and distressed by this unnatural treatment; to avoid which, I gathered the whole of my small crop on platforms made expressly for the purpose, affording room for sixty women: the binds thus remain uninjured, and the sap descends gradually as it should do, giving I have no doubt an increase of power in the spring from this method of picking without cutting down the plant. Whether this system would remunerate if adopted on an extensive scale remains to be proved. It was my intention that this should be my last letter to you on the subject of hop gardening; but I have made during this summer many entirely new and useful discoveries relative to this branch of cultivation, which I shall be most happy to communicate to the public through your kind indulgence at some future period. In the mean time believe me

Yours very truly,
RICHARD CRAWSHAY.

Honingham Hall.

TO THE EDITOR OF THE FARMER'S MAGAZINE.

SIR,—In your paper of the 9th inst., there is a letter signed C. D., from which the following is an extract—"Where is the manure called animalized carbon to be purchased, and to what crop and soil is it most beneficial?"

I have to state, for the satisfaction of C. D., that I imported last season a cargo of the said manure, and introduced it amongst the farmers of East Lothian, and Berwickshire; it was applied to grain crops and grass in top dressing, &c. to turnips, in the latter the results I am happy to say have been most satisfactory, it having proved fully superior to bones, and comes much cheaper. Should C. D. wish it, I shall be happy to hear from him, and I have no doubt the correspondence will lead to results beneficial to both parties, as I can give him very full information respecting its quality and application, as well as enter into arrangements regarding the furnishing a quantity agreeably to order.

I am Sir, your obedient Servant.
CHR. MIDDLEMASS.

Dunbar, N. B., 14th January.

The Committee appointed on Saturday, the Seventh instant, to decide on the nature of the testimonial of esteem to be presented to Mr. SIMPSON, of Loversall, having met, by adjournment, on Saturday, the Fourteenth instant, at the Rein Deer Inn, in Doncaster, WILLIAM BROUGHTON ESQUIRE, of Bawtry, in the chair; the following Requisition, bearing the signature of NINETY-EIGHT Owners of Estates, Tenant Farmers, Professional and other Friends of Mr. Simpson, was read and presented to that gentleman after a most appropriate Address from the Chairman:—"We the undersigned, being desirous of testifying our sense of the services rendered by Mr. Simpson of Loversall, as a Land Valuer and Valuer of Tenant-right, to the Agricultural Community in general,—from sound practical discrimination and the perfect independence and impartiality which have placed him so deservedly high in his profession,—propose to request him to sit for his Portrait, to be taken by some Artist of eminence, and presented in our names."

HORTICULTURE. — PEAS, BEANS, RADISHES, LETTUCE, CABBAGE, ONIONS.

BY MR. TOWERS, C. M. H. S. AUTHOR OF THE DOMESTIC GARDENER'S MANUAL.

(From the Quarterly Journal of Agriculture.)

The *Pea* is one of the most delicious vegetables which our gardens produce; it is a universal favourite, and is grown abundantly by persons in every station of life; it is of ready culture, and very hardy, but there are points which ought to be investigated, in order to obviate certain inconveniences, and to promote larger crops with less danger of failure; these I shall shortly allude to.

Botanically—the *Pea*, *Pisum sativum*, belongs to the natural order *Leguminosæ*, and to its first suborder *Papilionaceæ*. In the Linnean system we find it in Class XVII. Order IV. *Diadelphia Decandria*. Stamens 10, nine of the filaments are united for more than half their length into a semi-cylindrical keeled tube open on one side, but closed by the tenth filament, which is flat and awl-shaped. The essential character is found in the *style*, which is triangular keeled above and downy. The two upper segments of the calyx are wider than the three lower. It is a native of the south of Europe, and was introduced to Britain at a period not known, nor perhaps now to be discovered. The species are few, but the varieties of the garden pea are very numerous, and capable of great extension, by hybridization. Some are highly valuable both for garden and field culture; none more so than the following, which afford ample choice for every appropriate season and situation.

It is but candid to observe, that the succeeding remarks apply to the climate of South Britain, a circumstance which I regret; nevertheless, the experienced cultivator in the north will be able to make the required corrections without difficulty; the constitution of the plant is, in fact, so hardy, that it can adapt itself to almost any degree of transition; an assertion which the following anecdote will tend to establish. Three or four years since, I raised a few early frame peas in a hot-house, but the weather was so cold and ungenial, that I dared not transfer them to the open soil. The plants grew rapidly and became 'drawn': as an experiment, I cut them over very low, yet they sprouted vigorously afresh; and the season becoming much milder, I one very fine morning removed them to an open border, with care not to injure the roots, also to bring the earth in close contact with them, raising it in a sort of ridge against the plants: two or three inches, however, of the stems remained unpro-

tected. As evening advanced the temperature became much lower, and during night was reduced to three or four degrees of frost. In the course of twenty-four hours these peas* were subjected to a transition amounting to between thirty and forty degrees, immediately after the disturbance of their roots; yet they not only survived the severe frost, but produced a fair number of really good pods.

Approved varieties are the *Early Frame* and *Early Charlton*, good bearers, which may be sown in October, November, and December, in single rows; and if the spring be propitious, they will produce moderate crops towards the close of May and the beginning of June; height three or four feet.

Early White Warwick, the new and most valuable pea alluded to in a former article:* it may likewise be sown in the autumn, and will come into bearing in a period as short as the nature of the season will by possibility permit. It is adapted also to medium and late crops; and possesses a high and peculiar flavour. The plants rarely exceed one yard in height. In the field they, of course, are never assisted by sticks, and are planted in rows, about a foot or sixteen inches asunder.

Bishop's Early Dwarf, a neat little pea, decorated with blossoms from the soil to the extreme point of the stems, which rise little more than a foot high. The pods are small, and contain but a few seeds; the variety indeed is more curious than useful; and is not so early as the *Warwick*; I have noticed it, because I find that it is a great favourite with some persons.

Spanish Dwarf grows from eighteen inches, to two feet high; is of a close compact habit, peculiarly suitable to dry seasons, and to districts frequently visited by high winds; it yields well for its size, and the flavour of the pea is pretty good, but it is not considered early.

Woodford's Marrow Pea, one of the most estimable of the new, or newly named, varieties; height thirty inches, extremely prolific. Pods of medium size, seeds large, and full of a high flavoured, delicious pulp; none can surpass it for general spring culture, unless it be the

Dwarf Blue Imperial. This indeed is surpassingly excellent. I know not its origin, but conceive it to be a hybrid between the Prussian-blue, and one of the marrow fats. Height three feet, herbage rich, strong, and of a fine glaucous bluish tint; that is, in situations and soil favourable to it; but some complain that it does not prosper with them. I believe that it requires a soft, unctuous, and rather open loam, enriched with black vegetable earth, and not with common mixed manures. Season of sowing between February and June.

Prussian-blue.—A hardy and most fruitful variety, suitable to any climate; to the field as well as the garden, for the middle crops. The fruit is a bluish grey when quite ripe, and not so large as that of the imperial. Of the taller growers, the *marrow-fats* and *rounceval* claim precedence; but they are very inconvenient to the grower, and are liable to injury from high winds. One variety, however, merits particular notice, because it evinces the importance of cross impregnation; I allude to

Knight's Tall Marrow-fat, the history of which may prove interesting to many who are not acquainted with its origin.

Mr. Knight, the President of the London Horti-

* It is usual to write the plural of *pease*; I object to this orthography, as I deem the latter word to be expressive of an "adjective" quality, as *pease-pudding*, *pease-soup*, *pease-straw*, and not of *plurality*; "*peas*" surely is correct, *pea sing.* *peas plur.* not *pease*.—TOWERS.

All lexicographers of authority spell the plural of *pea*, *peas*; and the spelling, *pease*, is used by them to denote the kind of seed in contradistinction to other seeds. Why the distinctive difference is made in the orthography the same authorities are silent, but it certainly exhibits the beautiful variety of our language.—EDITOR.

cultural Society, has described his experiments in the Philosophical Transactions of 1789. Two years preceding (1787) he had a degenerate sort of pea growing in his garden which was not restorable by attention and culture. "Being thus a good subject of experiment, the male organs of a dozen of its immature blossoms were destroyed, and the female organs left entire. When the blossoms had attained their mature state, the pollen of a very large and luxuriant pea was introduced into the one half of them, but not into the other. The pods of both grew equally, but the seeds of the half that was unimpregnated withered away, without having augmented beyond the size which they had attained before the blossoms expanded. The seeds of the other half were augmented, and matured as in the ordinary process of impregnation, and exhibited no perceptible difference from those of other plants, of the same variety—perhaps because the external covering of the seed was furnished entirely by the female. But when they were made to vegetate in the succeeding spring, the effect of the experiment was obvious. The plants rose with great luxuriance, indicating in their stem, leaves, and fruit, the influence of this impregnation; the seeds produced were of a dark grey. By impregnating the flowers of this variety with the pollen of others the colour was again changed, and new varieties obtained, superior in every respect to the original on which the experiment was first made, and attaining in some cases a height of more than twelve feet."

The *Sugar Pea* is not recommended for the ordinary uses of the table, but as forming a most excellent pickle. Its shell is destitute of that tough membrane which is found in other peas; hence the entire pod is occasionally cooked, and eaten with melted butter; it is extremely sweet, and on this account, as well as for the little resistance its husk opposes, birds devour the seeds rapaciously.

The foregoing list contains ample materials wherewith to form a very complete collection of peas; small families would require two or three varieties only, as for example, the white Warwick for the earliest and latest crops; because it vegetates speedily, and is quickly off the ground; and the Prussian blue, and Woodford's marrow, for the main summer crops.

The soil for peas ought to be a mellow, rather light, and sandy loam, enriched with vegetable compost, wood-ashes, and perhaps by a sprinkling of salt. In sowing the seeds, drills should be traced an inch and a half or two inches deep, and not less than a yard apart; they vegetate more perfectly, and the plants yield a better crop, when the seed is sown in long single rows; but space and situation will not always permit this to be done: the soil also becomes less contaminated than when large beds are planted.

The *pea* affords one of the strongest evidences of the truth of the "excretory theory;" for not only does the root emit a most powerful specific odour, which fills the soil, but it produces a species of mouldy excrement in great abundance,—inasmuch that, in shallow land, over chalk or marly loam, the pea refuses to vegetate, or at least to perfect its growth after three or four reiterated croppings. I have witnessed the entire failure of pea crops in land so saturated,—and in some districts the common people have a local term to express this specific poisoning of a soil—they say it is "over pea d."

Not many weeks since, I had an opportunity to converse with one of the best kitchen gardeners

in the kingdom, and observing a peculiar mode of cropping the borders, I made it the subject of minute inquiry. The *permanent* crop is the strawberry, planted in rows about a yard asunder, and retained strictly within its limits; between each row a crop of *early peas* is succeeded by one of *Cape Broccoli*; the ground is manured once a year, and is kept in perfect heart and condition by this rotation. The gardener is a native of Scotland, a man of acute discernment, and who duly appreciates the facts which come under his observation. His experience had satisfied him that the broccoli took up and cleared the land from that peculiar matter which pervades it, when crop after crop of peas is sown: and hence that broccoli, and, I may add, the *brassica* tribe in general, become excellent successions to the pea, and perhaps to other leguminous vegetables.

Times of Sowing.—These must depend upon climate, and the object of the cultivator. Most persons affect an early crop of peas, and there are several methods by which the plants may be forwarded in their early progress. If the season be open, and October or November sowing may succeed perfectly; and it will not be improper to try a few drills of *frame* and *Warwick* varieties. The very finest crop of Peas which I saw in the early part of the present year, was sown in November 1835, in one long drill, three or four feet in advance of a high wall, with a south aspect; there was scarcely a blank throughout thirty or more yards; the plants were closely supported and protected by small branchy sticks of the spruce fir; and where this material is to be had in abundance, its close, well-set and regular spray serves equally to protect the advancing plants against the attacks of birds and frost. But peas sown early in the open ground, present but a very insecure promise of ultimate success: mice, birds, and insects assault them; alterations of temperature, profuse rains, swampy ground, and rigorous frosts, all combine to thin the plants, if not to destroy them all together. Nothing can be safely effected till the end of February; for with the best winter treatment a very great waste of seed must be anticipated. The most effectual remedy is found in a hot-bed frame and lights, simply supported on four bricks—one at each corner,—and furnished with a bed of good, light earth, six inches deep: a bank of coal-ashes might be placed around the frame, rising almost to the top of it, and sloping off at a pretty considerable angle. Seed sown thickly in such a bed, early in February, would vegetate perfectly; the lights, covered with a mat in the event of a severe frosty night, would afford ample protection, and the plants would rise slowly, yet securely, without any loss. It is well known that peas sown in the open ground become, as before observed, an easy prey to field-mice and birds; scarcely one-third of the seed produces perfect plants; whereas in a glazed frame, a quart of seed will yield an abundant crop, and cause a real saving. One objection, however, of some moment, may be started against the frame culture of peas; the plants must be taken up, and transplanted one by one, and the operation requires much time and attention. To obviate this objection, I would suggest an alteration in the mode of raising the peas; for as to the practice of *transplantation*, it is one of real utility, which far from retarding the growth of the plants, promotes it, and brings them into bearing at a period comparatively early. The plan now to be proposed was first described to me by a young gardener who

witnessed its success at one of the first gardens in Nottinghamshire.

A number of grass turfs, three inches thick, and of the same breadth, must be collected: their length, individually and collectively, determined by that of the row or rows of plants intended to be formed, and the convenience for bestowing the turfs. If twenty yards of plants be wanted, as many turfs may be cut; and it perhaps is desirable to cut them in such short lengths, as they will be found more manageable than long turfs at the time of final planting out. Invert each turf, and with a sharp knife cut a groove along its centre, about an inch and a half deep. One pint of "Warwick," "frame," or Charlton peas, will sow a row of twenty yards, and the same measure is considered amply sufficient to sow thirty yards of the imperials or marrow-fats. Drop the seeds one by one along the groove, to the extent of two or three in an inch, according to the variety, and then cover them with fine earth moderately enriched with leaf-mould, or perfectly decayed manure, filling up the groove, and pressing the earth firmly upon the seed. Place these planted turfs in a frame, or upon the floor of a vinery, or other convenient glazed structure. Air and moderate moisture must be attended to; and with these, and a free exposure to light, the plants will rise freely and grow rapidly, without danger of being "drawn" up. If the peas be raised in a warm vinery, it will be prudent to harden the plants when grown an inch or two high, by removing the turfs to a frame, giving air freely in the forenoon particularly, and closing the lights in the evening, and whenever the weather is very cold and heavy rain falls. As soon as the ground becomes moderately dry, and the weather appears propitious, small trenches should be opened rather wider than the turfs, and an inch deeper, throwing the loose earth to the north or east side of the trenches. Drop the turfs into them, regulate them by the line, press earth close to the edges, and thus a complete row of peas will be formed at once, without that trouble of arranging and fixing every individual pea which must attend the practice of raising the seed in pots and beds of earth.* The loose earth from the trenches should be placed as ridges of defence, which will ward off in a degree the force of cold and piercing winds. Peas so planted out cannot be too early defended by low branchy sticks. These are of great benefit to the plants, which they greatly protect, and, I may say, excite; for the pea being a climber, sends out its tendrils very early, and thus attains that perpendicular growth which nature ordains it to assume. Without it, the plant can be productive of fruit on one side only, to say nothing of the injury that it must receive when its stem lies prostrate on the cold and damp surface of ground, which during the spring is frequently covered with hoarfrost.

Transplantation, I have said, accelerates the crop, but it refers chiefly to those sowing which are forced, or stimulated under glass. After the third week of March the sowings may be made in the open ground; and if plenty of garden traps be set about the beds, and the peas be closely sticked almost as soon as they rise, or have received their first owing, they will generally succeed perfectly.

* We dare say this convenient method of transplanting peas in rows may not be known to farmers, and is worth their attention. The process was first described some years ago in the *Memoirs of the Caledonian Horticultural Society*.—EDITOR.

It only remains to observe on the cultivation of peas generally, that, in order to have a regular succession during the season, a fresh sowing ought to be made, as soon as the plants of the one preceding shall be fairly above the surface of the soil: this holds good with respect to every variety which may be selected; and if there be plenty of space, an abundant supply may be secured. But the season will operate much in producing success, or the contrary; for if it be dry and parching, peas do very little good; and water, unless given profusely, is applied in vain. It is advisable to provide against consequences; and previous to sowing the seed, after the end of April, to drench the soil completely. In a day or two after this operation the surface will become sufficiently dry, and the drill may be formed to receive the seed, which would not be injured by another watering, before the earth is turned upon it. During the summer months, if rain do not follow speedily, and at short succeeding intervals, pea sowing is not likely to be successful, unless these copious waterings be resorted to; but with ground thus duly prepared, it has been proved that gatherings of the finest quality have been made during September, and even to the middle of October. At these periods, this vegetable is an extreme delicacy; and one which cannot be purchased in the market;* and, therefore, is worthy of the utmost attention.

The *Bean*, *Vicia Faba*, is another member of that comprehensive natural order, *Leguminosae*,—and, as its family name imports, it belongs to the Vetch tribe. The flowers are papilionaceous; their colour chiefly white, or white tinted with bluish-purple; a black spot is on the wings of most of the varieties, though one or two are free from it. The flowers are peculiarly and most gratefully fragrant: they are succeeded by pods, growing erect from the stems, and nearly without foot-stalks. The leaves are not furnished with tendrils. The plant is supposed to be a native of Egypt, and to have been introduced by the Romans. The bean abounds with a farinaceous pulp, and therefore is presumed to be highly nutritive. The horse-bean—a variety termed *V. Faba equina*—is found to be excellent food for horses, when blended with a considerable quantity of bran. A bushel of these beans are stated to yield about fourteen pounds of flour more than a bushel of oats. The garden varieties are rather numerous, but three or four of them are sufficient for any family. Some are esteemed for their precocity, others for their fertility, or excellence of flavour.

The *Small Early Mazagan*. The seeds may be sown for the earliest crops in October or November, and thence to the end of January, in a warm and sheltered situation, open, however, to the sun; but as beans transplant very well, it will be a good plan to select a small spot of ground about six feet square, and after digging and reducing the earth quite fine, to open small drills three inches asunder, and two inches deep, making them very even and solid at the bottom. In these the seeds are to be sown rather closely, that is about three inches apart, and covered with fine soil, which is to be pressed very firmly upon them. This small plot can easily be protected, either by a frame and lights, or by mats laid over hoops, placed arch-ways over it. I have raised the larger beans in pots of earth, in the spring, and transplanted them, when five or six inches high, into drills, with per-

* There are plenty of peas in the vegetable markets in Scotland in October.—EDITOR.

fect success. Give air freely to covered and protected beds; remove the coverings in mild weather;—in February, or early in March, if it appear settled;—transfer the plants to the open ground, prepared by manuring, digging, and pulverising. The drills should be two feet apart, and be made sufficiently deep to receive the mass of roots. The earth is then to be brought into close contact with the fibres, and raised two inches high about the stems.

The *Long-pod*.—The name expresses the appearance of the pod, which abounds with seeds of a medium size. It is a sure and prolific bearer, though not esteemed for its flavour, and is cultivated everywhere on account of its hardihood and fertility; and as it is suitable to the cottager, by bringing abundant crops at an early period, the absence of high flavour is deemed a secondary consideration. The seeds are sown in rows three feet asunder; the beans two or three inches deep, and four inches apart. Seed-time extends from the first week of February to the end of May.

Sandwich is a fine and fertile bean.

The *Broad-Windsor*, the best as respects flavour, but it is rarely prolific; sometimes the pod contains one seed only, frequently not more than two.

With a view to retain the rich, full flavour of this fine bean, but to render it prolific, it has occurred to me, that the object might be attained by hybridizing the two varieties; and I have this year attempted an experiment, on a new and rather large scale, which has yielded me a fair crop of seed, although the spring and early summer were droughty to a distressing degree. What the result may be, another season must determine; and if it be gratifying, I will not fail to describe my simple process very particularly.

Soil, and General Culture.—Beans prefer a rather strong, rich, and moist soil; but they will do pretty well in most kitchen-garden mould.

Drill-Sowing is the best method: the beans should be dropt regularly into the drills, at three, four, or five inches distance apart, according to the size of the seeds, and ordinary growth of the plants. The earth should be pressed firmly upon the beans; and as the plants advance, they should be moulded up a little, and the spaces between the rows kept free from weeds. Sowing after June must not be expected to produce much of a crop; those of February and March, if the season prove rather showery, always yield the best crops. When the plants grow large, and the blossoms expand, it will be prudent to nip off the tops, as it will tend to divert the nutritive fluids into the advancing pods, and frequently arrest the progress, if not wholly prevent, the attacks of the black Aphis. When these baneful insects have obtained complete possession, it will be wise to cut the plants down to within five or six inches of the soil; as then, they may be expected to push two or more healthy young stems.

The quantity of seed required for a row of eighty feet of the smaller early varieties, is about one pint, according to Abercrombie; for the main crops, where the beans are planted further apart, a somewhat less quantity may be sufficient. The rule given to regulate the sowing of *peas* for succession-crops, is applicable to the present subject.

The vegetables which may be raised from seed, by sowings performed in January and February are:—*Peas and Beans*, as by the foregoing directions; *Radishes*, at different periods; *Lettuce*, a few of the hardy Cos, Dutch and Green Cabbage;

Cabbages, the young plants of the summer sowing may be transplanted into open beds, if the work were omitted in the late autumn; *Onions* may be sown or raised from bulbs; the latter process I mean to describe in an early article; it is very interesting.

HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

The Anniversary Meeting of this National Society was held on Tuesday, Jan. the 10th at which was a very full and influential attendance of the Members. The Meeting excited more than usual interest among agriculturists, from the questions raised on the application of steam power to tillage, and on a proposal for an experimental farm, which were to be brought under discussion. The Marquis of Lothian, as Senior Vice-President in the chair, supported by the Duke of Buccleuch and Queensberry, the Marquis of Tweeddale, and the Earl of Rosebery. The Duke of Sutherland was elected President of the Society, and thirty-eight noblemen and gentlemen admitted ordinary Members, and nine English and Irish noblemen and gentlemen, honorary Members.

The Secretary brought up from the Directors the following Resolutions in reference to the Society's Meeting at Perth, which having been read, and *seriatim* put from the Chair, were unanimously adopted:—

RESOLVED,

1. That the thanks of the Society be given to the Most Noble the Marquess of Breadalbane, the officiating Vice-President at the time, and to the Most Noble the Marquess of Tweeddale, for their attendance at the late General Show of Live Stock at Perth, and for the energy and zeal displayed by them in forwarding the objects of the Society upon that occasion.

2. That the thanks of the Society be given to the Lords Lieutenant, Vice Lieutenants, and Conveners of the Counties of Perth, Forfar, Fife, Clackmannan and Kinross, and to the other Noblemen and Gentlemen of the Committee who officiated at Perth, for their active co-operation in carrying into effect the wishes of the Society, and the purposes of the Meeting.

3. That this Resolution be conveyed to the Right Hon. Lord Kinnaird, Convener of the Local Committee; and to John Richardson, Esq., of Pitfour, Vice Convener, with the expression of the obligations of the Society for their personal exertions, through which the arrangements of the Meeting were followed with such complete success.

4. That the thanks of the Society are likewise due, and are hereby given, to Archibald Turnbull, Esq., of Bellwood, for his very active and efficient exertions.

5. That the thanks of the Society be likewise given to the Right Hon. Lord Viscount Stormont, acting Chairman, and to the other Members of the Deputation of Directors who attended at Perth, for their zealous exertions in regulating and superintending the details of the Meeting.

6. That the Society beg to convey the expression of the high sense it entertains of the important services rendered by the Gentlemen who acted as Judges on that occasion.

7. That the particular thanks and acknowledgments of the Society are presented to the Lord Provost and Magistrates of Perth for their hospitality and obliging attention to the comfort and accommodation of the

Society, and for their ready assistance in all the arrangements connected with the Show.

8. That the Society feels deeply indebted to Lieut-General the Right Hon. Sir Hussey Vivian, G. C. B. Master-General, and the other Members of the Board of Ordnance, and begs to tender the Society's sincere thanks and acknowledgments, to the Master-General and Board, for the use of the spacious depot at Perth, for the exhibition in the forenoon, as well as for the excellent accommodations afforded in the Barracks for the comfort of the very large party who attended the dinner in the afternoon. The Society's acknowledgments are also due to Mr. Gillmore, the officiating officer of the Barrack department on the spot, for the ready attention and facilities afforded by him, in carrying into effect the wishes of the Board.

9. That the Most Noble the Vice-President in the chair, be requested to transmit a copy of these Resolutions to the Right Hon. Lord Kinnaird, and the Right Hon. the Master-General of the Ordnance, and to convey to them the thanks of the Society accordingly; and also to the Lord Provost of Perth.

STEAM PLOUGH.

Mr. Burn Murdoch, of Coldoch resumed the proceedings already had by the Society, and the Directors, in regard to the offer of a premium of 500*l* for the first successful application of steam power to the cultivation of the soil, and as Conveuer of the Committee named to adjust the terms and conditions of the premium, he reported the revised draft for the consideration of the Society. The Marquis of Tweeddale moved its adoption; seconded by Professor Low.

Mr. Robison considered it objectionable to appropriate so large a sum to the proposed object. No case had been made out to make it necessary, and no such stimulus is wanting, seeing the attention of influential persons is already directed to it. If the principle is approved of, the reward should be confined to the Gold Medal.

The Duke of Buccleugh approved of the offer of a liberal premium; if the object is to be obtained, there must be an inducement offering something like compensation for the expense of experiments.

Mr. Smith, of Jordanhill, Mr. Lennie, and Mr. Fergusson, concurred in that opinion, and Lord Tweeddale in reply said, that from the interest felt, as he knew, in every part of the United Kingdom, in the Society's proceedings on this subject, and the cheers of 1150 gentlemen with whom he dined at the Society's meeting at Perth, also strongly showed it, deep disappointment would be felt if the Society did not proceed. The station of the Society, and the position it holds, entitle the country to expect it from them. In the result the premium was unanimously adopted as proposed.

The Society afterwards named a deputation consisting of Lord Tweeddale, Sir John Forbes, Colonel Maclean of Ardgower, Mr. Home Drummond, Professor Low, and Mr. Burn Murdoch, accompanied by the Secretary, to proceed to Lancashire, to see an experiment made with Mr. Heathcote's steam-machine for cultivating moss.

EXPERIMENTAL FARM.

Mr. Nairne, of Claremont, rose, pursuant to his notice, to move the appointment of a committee to consider of the expediency of the Society establishing an Experimental Farm. Mr. Nairne was heard at considerable length in support of his motion; he thought such a farm would be attended with many advantages, and would be an excellent appendage to the Professorship of Agriculture: instead of five

hundred acres, perhaps one of one hundred, or of fifty or sixty acres, might be sufficient in the first instance.

Professor Low said he could not look to the project of forming what is termed an Experimental Farm, under the auspices of this Society, with any hope of a favourable result. Experimental farms had been tried in many countries in Europe; and experimental farms had one and all ended in disappointment. Nor could any other result be anticipated. Good husbandry does not consist in a set of experiments, but on the wise application of knowledge already acquired. Experiments were the exception and not the rule of successful tillage, and a farm conducted on a system of experiments must be an ill-managed farm. Our true experimental farm, was the country, and the way to get experiments performed with effect was to attach our landed gentlemen to their country houses, and to make our tenantry enlightened and prosperous.

The Duke of Buccleugh was opposed to the measure being attempted by the Society, for the reasons assigned in the Report two years ago. Proprietors should undertake such experiments as may be too expensive for tenants. Lord Tweeddale observed, with reference to what was said by Mr. Nairne, of proprietors carrying the premiums at General Shows, they no doubt did so in the first instance, for males and females, of superior breeds, brought into the country at a great expense; but the tenants generally carried the other premiums; and getting the produce of the Breeding Stock thus introduced, they, in a few years, beat the landlords in these also.

The feeling of the meeting being against an experimental farm, Mr. Nairne withdrew his motion.

IMPROVEMENT OF WASTE LAND.

Report of the expense of reclaiming Land on the farm of Wester Moy, in the parish of Contin and county of Ross, the property of J. A. Stewart Mackenzie, of Seaforth, Esq., M. P., by Dr. James Wishart, Dingwall.

These lands in their natural state, consisted of an almost impenetrable copse of whins and brooms, interspersed with deep gullies and patches of rock, which could only be reduced by the application of gunpowder. When properly cleared and levelled, the whole ground was completely drained, and afterwards carefully trenched to the depth of fourteen inches. After these operations, the whole was limed at the rate of thirty bolls per acre, and are now subjected to the same rotation of crops as the rest of the farm, and are equally productive,—all done in the course of three years. The land has been converted to very productive soil.

The contents of the reclaimed land are	
41 imperial acres, which, for clearing of whins, levelling and removing rocks, cost 10s per acre	£ 20 10 0
Draining and ditching 41 acres, at 2 <i>l</i> per acre	82 0 0
Trenching 41 acres at 4 <i>l</i> . 16s per acre	196 16 0
Liming 41 acres at the rate of 30 bolls per acre, amounting to 1230 bolls at 3s per per boll, including cartage from the port of Dingwall	184 10 0
Total expense,	£ 483 16 0

POOR LAW REPORT—APPENDIX— EXTRACTS.

J. PHILLIPS KAY, ESQ., M.D.—NORFOLK AND SUFFOLK.
OLD HOUSES OF INDUSTRY IN NORFOLK AND SUFFOLK.

One of the most prominent defects of these establishments consisted in the absence of any efficient classification of the inmates. Young men and women, children of both sexes, the aged and infirm, and able-bodied married men and women, were often promiscuously mingled in the yards and day-rooms, and the means of classification at night were sometimes inefficient.

The provision for the accommodation of the able-bodied married paupers at night was not calculated to improve the moral condition of the inmates. A long room was usually divided into small "huts," each capable of containing one bed. These huts were narrow enclosures from the area of the room, created by thin boarded partitions about six feet high, between the top of which and the ceiling the ventilation of the apartments was not obstructed by any other division. In such apartments married people have lived thirty or even forty years; their children, born to them in the house, have married, and accepted the same provisions; and their grandchildren have been bred within the walls.

The directors and guardians of the Mitford and Launditch incorporation appear to have shrunk from this arrangement, and boldly encountered the expense of erecting an immense building, divided into houses on the first and second floors for the accommodation of the married inmates. The whole structure is substantially built of brick, the rooms of the paupers' houses are 13 feet high, and arcades, not unlike those of the streets of Bologna, arc erected along the face of the building. Many of the cottages of the independent labourers in the neighbourhood are built of mud or lath and plaster. Wishing to avoid the error of herding the married people in styes, this incorporation fell into the opposite extreme of providing better dwellings for the paupers than were possessed by the majority of the independent labourers of the district.

Wherever this want of classification prevailed, the demoralisation of the inmates was inevitable. Statements have repeatedly been made to me, showing the great licentiousness which prevailed in these houses at an earlier period of the operations of the incorporations, when the numbers congregated in them were greater. Though their inmates were less numerous when I visited Suffolk and Norfolk, the corruption of manners prevalent in these establishments was notorious, and is too evident a result of the arrangements to require illustration.

In most of these houses the paupers were allowed holidays, when all the inmates departed whither they pleased. This indulgence was doubtless permitted to enable the paupers to visit their friends and relatives; but the consequences were generally fatal to the discipline of the establishment, and the morals of both sexes.

In the Heckingham House of Industry, this day of sports recurred every week, the inmates being freed from all restraints on Sunday. The paupers had made abundant provision for the enjoyment of this license; it was found profitable to erect two beer-shops in the immediate neighbourhood, which were usually crowded with paupers on this day. The women had boxes in the neighbouring cottages containing dresses, which, as soon as they were released they exchanged for the workhouse garb, and thus attired in a more attractive style, flanneted about the neighbourhood in company with the young men; and Sir Edmund Bacon, whose estate at Baveingham is close to the workhouse, complained to me that his woods were infested, as though they were the groves, and the workhouse the temple of Isis.

The education provided for the children sent to these houses was valueless, and the children born and bred there were idle and profligate. The means of promoting good morals were so totally wanting in most of these establishments, the reward of idleness was so abundant,

the incentives to vice so rife, that an observer might have been excused the inquiry, whether, on account of the lack of employment for the governors of county jails, it had been considered desirable to create seminaries for the preparation of victims of the penal code.

REFORM OF THE OLD SYSTEM.

When I arrived at the workhouse at Semer, I found considerable breaches made in the walls of the main building, brick floors torn up, fireplaces pulled out, chimney breasts demolished, door-frames torn away and burned, and window frames removed and destroyed. The glass was broken in every direction; there was scarcely a whole window in the house. The windows of the dining-hall were so much broken by the practice of throwing stones at the governor as he was passing through the hall, that the meals of the inmates could not be served excepting by day-light, as no candle could be kept lighted in the room. The repairs of the breaches and damages in the house and out-buildings cannot have cost much less than 300*l*.

The insubordination of the inmates was so extreme, that if the governor attempted to correct any disorder, the whole of the paupers rose in a body to resist his authority, and more than once violently assaulted him, tearing his clothes, and subjecting him to gross personal indignities.

The chief object to which it appeared desirable that I should direct my attention, in the first instance, was to provide constant employment for the able-bodied inmates. The situation of the house afforded abundant facilities for effecting this object, and within three days of my arrival they were set to work in digging and barrowing chalk and gravel to level the ground surrounding the workhouse, and afterwards to make new roads to the house, and other improvements. In the first fortnight twenty of the inmates left the house. I was enabled to make the enforcement of this system of labour the first step towards the introduction of the Commissioners' rules and regulations within the workhouse, and acting on your recommendation to proceed gradually, but firmly, in the establishment of correct discipline. By close and persevering application to this object, I was enabled to subdue the refractory spirit which prevailed, and, step by step, to obtain obedience to each regulation, to classify the inmates, and to create a deference to the authority of the master, which now frees us from all embarrassments. Very few of those who had, at the period of the formation of the Union, apparently taken up their permanent abode in the house, have remained inmates until this period. The aged and infirm are much pleased with their treatment under the new management: the classification is a source of great comfort to the old; and they often say, how easy and comfortable they are compared with their former situation. I am convinced it would have been a matter of extreme difficulty, if not impossible, to bring the discipline of this workhouse to its present state, unassisted by classification. Some of our indulgencies, previously to the alteration of the discipline, were curious: the women, on washing days, were allowed five pints of strong beer each, besides the usual allowance; on the christening of any child, born in the house, the paupers were allowed to entertain a party of friends, and feast them within the walls at the expense of the incorporation.

As witness my hand this 7th day of June, 1836.

T. PLUM.

In the parish of Mildenhall the paupers had facetiously formed themselves into two bodies, which they denominated the House of Commons, and the House of Lords. The House of Commons was engaged at the bottom of the pit, loosening the hard earth, digging the gravel, and throwing it up to the Lords, who were placed above them, and were occupied in sifting the refuse, and throwing what was useful to the top of the pit. Doubtless these houses of legislature agreed on many things which conduced to the maintenance of public order and the promotion of the pauper weal.

In a system which offered so large a bounty on fraud, the paupers were not backward in possessing themselves

of as large a portion of the poor rate as possible by the practice of imposture. The plans of deception adopted were numerous. One of the most common consisted in the concealment of the sources of income, or of property possessed by the pauper. The examination of the applicants for relief in their own cottages by the relieving officers has obstructed many of these sources of imposition.

From several similar examples I select a catalogue of the effects of an old couple who had been for four years dependent on the poor rates of Bury St. Edmunds (having received 4s per week during this period), and which goods were seized by the guardians of the Incorporation, and sold at the workhouse, in order to reimburse them for the cost of maintaining the paupers. This sale was not effected without considerable excitement among some humane persons, who entered with such warmth into the defence of the paupers against the intended aggression of the guardians, as to deny the existence of the property claimed by the Incorporation. These charitable gentlemen did not anticipate that as far as the paupers were concerned the results of the sale of their property would be as stated by Mr. Cobbing, viz.—that he had “obtained for the old couple 9s per week of their own money, instead of 4s per week from the parish; 10l down in cash, and a comfortable cottage in which to spend the remainder of their days, in lieu of one of the most miserable residences that can be well imagined.” Nor do I suppose they expected that as far as the interests of the rate payers were concerned, the proceeds of the sale would be, as published by Mr. Cobbing, as follows:—

Sale of two tenements by private tender, realized an allowance, as I am now credibly informed, equivalent to the sum of.....	£180	0	0
Sale by auction of furniture, &c., by Mr. Lock.....	11	6	9
Ditto by Mr. Hunter at the workhouse....	43	0	0
	£234	6	9

In addition to which, duplicates for silver at the pawn-brokers, and the furniture restored to the paupers, are not included in the amount.

Among the articles seized, Mr. Cobbing particularly enumerates “six bureaux and chests of drawers. The old woman had 10 gowns and 12 petticoats, although she chose to remain the picture of misery and want. She had also 25 pairs of stockings; yet within a few weeks they had wickedly received from the Rev. Mr. Hasted two pairs of stockings, the gift of some charity. They had 10 Bibles; two of these Bibles, three Prayer-books, and one Testament, they had obtained from the Society for promoting Christian Knowledge, quite new, and had apparently never been opened. This shameless and unprincipled perversion of charitable donations is only to be paralleled by the case of a man whom I discovered to have 10 charity blankets in pawn at Mr. Haddock’s, although holding a pension of 9s a week, and at the same time receiving charitable relief.”

I was informed by Mr. Frewer, the vice-chairman of the Hoxne Union, that on committing to prison for misdemeanour a pauper of one of the parishes (who had been in receipt of full “scale allowance”), 17 sovereigns were found sewed in the lining of his waistcoat.

TO THE EDITOR OF THE SUSSEX ADVERTISER.

SIR.—Stall feeding has for some years been successfully practised near Harleston, in Norfolk, as described by an eye witness, as follows:—Stall feeding has answered so well that he he has doubled his stock *this year*, and the latter end of August sold 20 head, on which he had gained ten shillings each per week since May, and they were attended only by a woman at 7d a day, a boy of 12 years old to help to cut their food, which was brought to them by another boy, but the principal advantage arose from the quality of the manure, which was well trod without having been washed by the rain. As these forty beifers are kept in pairs, each pair divided from the next by two poles, and two poles also towards the yard; they are not tied up, but move freely in a space of nine and a half or ten feet square, and are perfectly healthy; their food bins are cleared out three times a day, and what remains are taken to the lean stock. Their principal food tares, cut grass, beet leaves, and turnip tops, cut with hay and straw. The expense of feeding these black cattle in *summer is about 6d a week per head*, exclusive of a donkey and a boy at 18d per week.

These cattle never go into the farm yard, consequently there is no straw laid down, and when it has by the treading of stock *under cover* been made into manure, it is carried out and formed in ridges, like the roof of a house, not more than three yards wide, to prevent heating, and to prevent the rain washing out its nutritious qualities, and after lying in such heaps three weeks it is fit to spread on the land. The superior quality of the manure, and much less straw required, leaves no doubt that land tilled under this system produces double the quantity of manure, as well as keeping one third more neat stock; independent of having the pasture fed by sheep, but to adopt this plan, cleanliness and capital are essential. But as the same capital on a third or half the number of acres returns equal profit, the rent, tithes, rates, and taxes of the rest may be saved.

A premium of 5l for the pair thus longest stall fed in Sussex was given at the last Lewes Christmas Cattle Show, and 10l is offered at the next Christmas Cattle Show, 1836, for the best pair of bullocks not tied up, and have not been from under shelter for ten months; also there are many competitors for similar premiums in Norfolk, and the Earl of Gosford’s little tenants have been raised from their hopeless and wretched condition, owing to his steward imparting to them *skill and security*.—Skill by the prescribed plan of stall feeding and rotation of crops as sold at 45 per 100 by Rodwell, London, and security from leases of 21 years at a fair rent, and in consequence in 1835, a silver cup was given for the first oxen stall-fed in Sussex, without being tied up, or suffered to leave their shelter from May to December, and another cup value 10l offered at the Lewes Show, 1836.

Those who have marshland will of course allow it to be pastured, and not compete for the premium other than during the winter months, but those who have not marshland, may derive as much profit from it as the account of the great agricultural dinner shews *has been obtained in the north of Ireland*, and in the eleventh edition of the letter of the chairman of the agricultural committee of the House of Commons, to his constituents, 1836, he says, “it will be seen by an attentive perusal of the evidence given by all the Scotch witnesses, that they turn their attention to the breeding, fattening, and general management of stock, to a much greater extent than is usually

The following is the return of the supplies during 1836 of the markets of Seceaux and Poissy, the principal markets for the consumption of Paris:—Oxen 124,534, cows 19,287, calves 110,373, sheep 676,585. The provinces which have principally furnished this supply are, Normandy 51,472 oxen, and 44,087 sheep; Anjou 12,154 oxen, Berri 6,437 oxen and 86,569 sheep, Limousin 13,012 oxen, Poitou 10,425 oxen and 37,828 sheep, Burgundy 4,566 oxen and 21,412 sheep, Saintonge and Angoumois 4,802 oxen, Maine 5,583 oxen, Artois 22,128 sheep, Orléans 27,292 sheep; Ile-de-France alone furnished 15,209 cows, 79,120 calves, and 210,019 sheep; 109,866 sheep have been supplied by foreign countries.

done by the English farmer, and the productive powers of the land are increased by the additional quantity of manure thus raised; it suffers less exhaustion by the less frequent recurrence of grain crops: and to this circumstance their comparative prosperity may in a great measure be attributed, and where the same practice prevails in England, (as may be collected from the evidence of Messrs Burnet and Crowther) it is attended with a like favourable result. Signed Charles Shaw Lefevre." And by those who subscribe to the half-crown agricultural book clubs, it may be seen in the Quarterly Journals and Prize Essays of the Agricultural Society of Scotland for 1836, that "a piece of plate of 10*l* is offered for comparative experiments on feeding stock in closehouses, or open sheds or hemmels; 20*l* for the most detailed and satisfactory account of feeding farm horses on raw and on prepared food; and 20*l* for the best account founded on experiment, on the employment of substances other than the common produce of the farm in feeding live stock;" and those English farmers, who like Mr. T. Ellman, attended the great agricultural meeting at Perth, on the 7th of November, can judge of the effects of these premiums in North Britain, and in the concluding words of Mr. Shaw Lefevre, as a practical farmer, with every wish for their prosperity.

I remain, their's most faithfully,

January 13, 1837.

J. S.

Balheary Mills, 11th, January, 1837.

(Near Swords.)

DEAR SIR,—Knowing the great pleasure you feel in inserting in the columns of your interesting journal any improvements in machinery that may improve manufacture, or be of service to your readers, I beg leave to inform you of a new method of building French Stones, that I have lately invented,—a method that from its simplicity and durability will be speedily adopted. I therefore propose, that a metal back be cast of an inch in thickness, any diameter that may be required, with a rim round the skirt, and another round the eye, 3 inch deep, the rim round the skirt to have a moulding of an inch square round the inside of it, which the ends of the Burrs, are to be fitted about to prevent them from shifting towards the face of the stones, which frequently occurs in the present mode of building when they are long in use; also, that 4 screw bolts, be fastened in the centre (which should be Irish stone of the usual shape), with lead and with nuts on the outside of the metal back, which will prevent the centre from ever loosening; the Burrs to be fitted as usual, and any difference in size to be substituted by plaster of Paris between the metal and the Burrs; also an iron hoop to be put on each stone. Any further directions would be useless, as the plan can be so easily conceived. With regard to the utility it is also quite clear, for in the lifting and laying down of stones built on the old plan, the back is subject to many accidents, which the metal will escape; and with regard to the durability, the metal back will last for ages, and of course wear out several sets of Burrs; also iron rings can be fastened in the metal back, to facilitate the lifting, which can be done with the greatest ease, by the assistance of pulleys.

At my next leisure I shall send a few new inventions regarding milling, which I have brought into practice with great success.

I remain your obt. servant,

THOS. BYRNE, Jun.

TO THE EDITOR OF THE NORWICH MERCURY.

SIR,—In answer to the inquiries of A. B. as to the rate of agricultural wages, I am happy to inform him, that in the district I reside in, and with which I have the means of being extensively acquainted, there is scarcely an instance in which 10*s* per week is not paid for day work to an able-bodied labourer, and in some parishes more. As to the case he adverts to, of a man with five or six children, I should say confidently, that with a few illiberal exceptions, the general practice is to put such an one to task work at a price which will enable him by industrious exertions to maintain his family. Indeed, Sir, I know of several parties similarly situated, who are receiving 16*s* per week on an average, exclusive of their children's earnings, which in many cases make the total amount 2*s* or 3*s* more. Your correspondent asks if there be now a redundancy of labour in the market. I should say in the aggregate most certainly not: the fact is, the supposed surplus is so dispersed that individuals who have hitherto depended upon the fund in the parish gravel pit to supply them with occasional hands, are obliged to employ a constant establishment to carry on their business. In more than one parish with which I am acquainted, where a large fund was available at pleasure, the farmers when any job has required a few extra hands, have lately been obliged to borrow labourers of each other. In this I most sincerely rejoice, and I do think the moment is arrived when if kindness and liberality go hand in hand with the checks imposed upon idleness and imposition, our valuable race of peasantry may be reclaimed from the effects of a vicious system, to which they have fallen victims. The symptoms from which I draw this conclusion are, that voluntary benefit clubs are forming among the labourers, as a provision against sickness and other casualties. Now, Sir, I should say—

"Be to their virtues very kind,
And to their faults a little blind."

Now let it be *all wages* between master and man, and let head money and allowance, as hitherto understood, be blotted out of our vocabulary.

Yours, obediently,

A TENANT FARMER & A GUARDIAN.

BEET ROOT SUGAR.—The following has just been published by the Custom House:—"By Treasury letter, dated 21st December, 1836, it is directed that immediate measures may be adopted for protecting the revenue in the manufacture and exportation of beet root sugar, and that great care may be taken where sugar is entered for drawback to require the strictest proof that can be legally called for, that duty has been paid thereon, and should any cases of just suspicion arise, from which it might be fairly inferred that the sugar so produced for drawback is of indigenous production, that the attention of the Lords of the Treasury should be forthwith called to the subject, with a view to check such a fraud on the revenue, and to punish the perpetrators and abettors of it."

TITHE COMMUTATION—THE AVERAGES.—In the returns published in conformity with the provisions of the New Tithe Bill, the average price of wheat per bushel for the seven years, ending on the Thursday before Christmas Day, 1835, was stated to be *seven shillings and one penny farthing*; the *Gazette* now contains an official notice, signed by Mr. Jacobs, the Comptroller of corn returns, stating that it ought to have been *seven shillings and a farthing*.

[The following is a brief abstract of a paper upon this disease, written by the President, Mr. Sewell. The subjoined discussion which took place in the Veterinary Medical Association, will be found to disclose much valuable information, we have therefore extracted it at length from the January number of the *Veterinarian*.—ED. F. M.]

THE PRESENT EPIDEMIC AMONG HORSES.

PRESENTED BY THE PRESIDENT.

(From the *Veterinarian*.)

A disease under the name of Influenza, exceedingly prevalent at different times, although having occasionally existed from time immemorial, was first described by some Italian physicians. They traced it to atmospheric agency, but they differed as to the nature of that agency. That disease has been differently described by different writers in later times. In truth, it had no fixed character; but it varied with the peculiarities of the seasons, and with the want or the defect of ventilation, and with various predisposing causes, arising out of the locality, and constitution, and habits of the patient. He, therefore, entitled his paper "The present Epidemic," because it differed materially from all that had hitherto been described.

It differed mostly in its mode of attack. Local circumstances seemed to have little to do with it. It went through the best regulated and best ventilated stable almost as completely as that which was most neglected. It attacked the young and the old; the stabled horse; and the one at grass, and even the foal that had not yet been stabled. Its causes were in the earth, or the atmosphere, or both. It assumed a more serious form in those that were previously affected with chronic disease; and no treatment which the animal was undergoing on account of other disease would avert its attack. It stimulated almost every disease. It was most prevalent and severe when the thermometer was at 58 degrees of Fahrenheit and more. It had hitherto been confined to the horse.

At its first appearance there was a depressed countenance, rough coat, slightly hurried breathing; pulse 50 to 60, but sometimes as much as 110 small and feeble; frequent inflammation and enlargement about the pharynx and larynx; inability to swallow, the food and water rejected through the nostrils, the eyelids swollen, much weeping, blindness. The limbs stiff, tender, œdematous. Sometimes bloody discharge from the mouth or nostrils; fever; rapid prostration of strength, not from visceral inflammation. Tumours in various parts; legs enormously enlarged.

For such a disease there could be no specific remedy. He bled in large or small quantities, according to the degree of inflammation and the state of pulse, and repeated it until the inflammation was subdued. He inserted setons in the neck and the chest; gave from two to four drachms of Cape aloes, and afterwards slight diuretics composed chiefly of nitre, and farinaceous and succulent food of various kinds. He availed himself, if possible, of an open place, or change of situation. He gave no medicinal stimulants, for food was the best tonic in such diseases.

The appearances after death were as different as could be. Pleurisy and hydrothorax, inflammation of the stomach and gangrene of the intestines, congestion of the liver, congestion of the vessels of the

brain, effusion on the brain, and sometimes total absence of all morbid lesion.

In conclusion, it appeared sufficiently evident that stable malaria was not concerned in the production of this disease, any further than as a predisposing cause, or probably aggravating the symptoms and destructive effects of the malady. In the open, and, apparently, the purest air, and which the animal had breathed for many a week or month, he was occasionally attacked by influenza. Fed on every possible species of food, the animal did not possess immunity. We must look, therefore, to the air which they breathed, and that either being altered in the proportions of the gases by which it was composed, or impoisoned by miasmata received from the earth. He had not met with any authentic account of the existence of the former to any considerable amount, and he was driven to the latter. He might have alluded to the influence of the seasons, of late so uncongential; but the epidemic had shewn itself, in some degree at least, before the unfavourable weather could have produced any morbid effect. There was another source whence pesidential vapours might be derived, and when he thought of the late frequency of earthquakes in various portions of the globe (although not destructive in our own country), he could not help thinking that from the deeper-seated parts of the earth some vapour had escaped, not cognizable by our senses, but destructive to life. He gave a long and interesting account of many of these convulsions of nature, and expressed his belief that they were somewhat concerned with the epidemic which had prevailed.

The Secretary having finished the reading of the paper, Mr. Sewell immediately observed that he waived every privilege which the laws of the Association might give him as a practitioner and as President. Let his paper be treated like that of one of his pupils. "Here I am," said he, "and I am ready to answer to the best of my power any question that may be put to me."

MR. TURNER inquired whether cases had not occurred in which the disorder was exceedingly intense, but no vital organ participated?

MR. SEWELL.—There were some instances in which no vital organ participated; but then there was general œdema.

MR. SEWELL.—If there was such general disturbance, must it not be considered as a disease of the nervous system?

MR. SEWELL.—Undoubtedly the great prostration of strength must be traced to nervous affection. There may be apoplexy, or effusion in the spinal cavity. He had seen serous effusion within the spinal membranes.

MR. TURNER.—Was there no cough?

MR. SEWELL.—Not in many, and rarely violent.

MR. TURNER.—The disease seemed to be common to all localities?

MR. SEWELL.—Yes; many were brought to us who had been turned out for the season.

MR. SIMONDS.—Was not the liver constitutionally affected at first?

MR. SEWELL.—Rarely. There has been occasionally a slight yellow tinge. It, however, differ from the common opinion here. I do not trace this to bile thrown into the system, but to its not being removed from the system by the seerning power of the liver. In many, the liver was perfectly sound; in others, congested. It was a perfectly Protean disease. He knew of but one viscus that had not been affected, and that was the bladder.

MR. KING, jun.—What was the prevalent cause? He had many cases, but not one from the fields. The

horses had all been regularly at work, and their stables were as clean and as well ventilated as possible, and in good and even elevated situations.

Mr. SEWELL.—We had some foals that had been turned out in June and July.

Mr. WALLIS.—Was it consequent on the predisposition that had been produced—the artificial state of the constitution—by over-feeding—or over-work, or any other cause? In many of the cases which he had seen, the horses had been turned out during the summer; therefore it could not result in their over-work, or over-feeding, or any other cause, predisposing or exciting, connected with the stable. It was some unknown atmospheric agency.

Mr. SIBBALD.—Many horses had come under his care that had been out at grass for months. He had had very few hackney-coach or cab-horses, although it might have been thought, from the manner in which they were fed and worked, that they would have been the most of all predisposed to be affected by this disease.

Mr. SEWELL.—The disease did not seem to spread in the course of the wind. It prevailed in hot weather and in cold, but certainly most when the temperature was high. It had appeared in Scotland in the Spring, and was now raging there again. There was not a corner in the country in which it had not prevailed. There are two breweries in this town, on different sides of the river; they are managed in the best possible manner: to the cleanliness and to the ventilation there could not be the slightest exception. It broke out in one of them. It fairly ran through the stables. Scarcely a horse escaped. In the other brewery not a horse was affected. Three weeks or a month passed, and it was all quiet and right at the first brewery; when it suddenly broke out in the second, and it is raging there now. In both, they took the sick from the healthy as soon as they were attacked; and the change of situation had the best possible effect. In the College he gives his patients every possible advantage to be derived from pure air; but he does not quite approve of their being altogether turned out. He has lost only four horses out of about two hundred. From what he has heard, he concludes that where the mortality has been considerable, the patients have nearly all died from drastic purging.

Mr. E. BRABY.—In the first stage was any particular organ or membrane affected? He believed not. If it was any, it was the conjunctival, or some portion of the respiratory membranes. Then, what was the disease at its first stage?

Mr. SEWELL.—A constitutional disturbance that increased the action of the heart, but produced more general irritability than inflammation, properly speaking.

Mr. E. BRABY.—Then inflammation is not a correct term. It is some mysterious energy, some extreme nervous sensibility: the surfaces are generally affected—the membranes are diseased: but it is not absolute inflammation. It is a diseased state which he hardly knows how to describe; but it is not proper inflammation. He has examined some horses in whom no apparent cause of death could be found.

Mr. SEWELL.—Did you examine the spinal cord?

Mr. E. BRABY.—No; but I did examine the brain.

Mr. FIELD.—The question of Mr. Braby had particular reference to a stage and period of the disease. It affects the surface of the body, and a large portion of membrane. You say the serous, the mucous, and the cellular membranes. With regard to the mucous and cellular membranes, I agree with you; but not

to any considerable extent as to the serous membranes. It is inflammation of the envelope of the body—the skin—the whole of its texture—and that by means of which it is connected with the subjacent parts. It affects also the mucous membranes; and there, too, it penetrates to the subjacent tissue. Looking at it in this view, it is essentially erysipelas, and allied more strictly to this than to any other disease of the same kind.

With regard to the symptoms, they are of two kinds, or the disease is two sorts; spontaneous or primary, or secondary. Take the secondary, as shewing its nature best. A horse meets with an accident, or the skin is excited by firing, blistering, &c.—there is a certain degree of inflammation excited. That inflammation, under certain states of the animal, spreads and extends itself over the skin—it spreads deeply, it extends rapidly over the whole limb, and over different and very distant parts, and a general irritation is excited. It is inflammation of the skin, commencing at the situation of the original wound or injury, but spreading from this, and extending to other parts, from sympathy and other causes.

The primary disease does not take place in this manner, because it begins locally. Its first symptoms indicate a febrile state: they are, loss of appetite, quickend circulation, depression, local pain, the pain shifting its seat, as indicated by a shifting of posture and other circumstances. From all this I infer that the disease is a species of erysipelas. This also shews the strict sympathy which exists between the skin and the mucous membranes. We excite the disease to a certainty if we excite inflammation of the skin. Thus, it follows purging, and hence the danger of purgatives in this disease. Immediately on the cessation of the working of the physic, the erysipelas appears, or, if previously existing, is strangely aggravated.

If I am right in my view of this disease, there can be no difficulty in understanding the train of symptoms. The skin is highly sensitive; the skin of the horse is peculiarly so. If there is so much irritation on the skin, will there not be irritation everywhere? and must not this be speedily followed by prostration of strength? It is not at all necessary to look for organic disease, or to the suspended influence of the brain, in order to account for the extreme prostration of strength which attends every case.

With regard to the duration of the disease:—the crisis will generally occur about the fourth or fifth day, if the animal has not been injudiciously treated, *i. e.* if purgatives have not been administered, and he has not been too largely bled. Until we get the natural serous effusion into the skin: until the skin becomes softened, relaxed from the state of tension produced by the inflammation, we cannot get rid of the disease.

What are the causes of this disease? I confess that I am not satisfied about this matter. I am inclined to believe that there are some miasma, and atmospheric influence, acting conjointly. The exciting cause may be wound and irritation; but I know not what to say satisfactorily of the predisposing causes.

I come now to the treatment of the disease. Our duty consists in placing the skin in an opposite state or condition. If there is great inflammation and tension of the skin, and no particular local tumour, how shall we obtain relaxation of the skin, and thus remove the pain? We soak the legs in tepid water—we use repeated warm fomentations, and thus endeavour to restore the obstructed perspiration; and in this state of fever, exposure to the air has a great but most beneficial influence in abating the pain and re-

ducing the temperature of the skin. Although these two modes of treatment appear so different, they effect the same salutary object.

What shall I say of medical treatment? If there be such an utter prostration of strength, surely I cannot advocate the cause of bleeding? In the cases in which I have not bled, my patients have become convalescent much sooner than where I have had recourse to venesection; and where bleeding has been employed largely from the supposed extremity of suffering, collapse has taken place about the fourth day, and the animal has sunk. As regards other means, the use of diuretics almost to any extent is allowable.

As regards the stimulating plan, it is decidedly the best. The nitrous ether is an admirable remedy; it is a stimulant and a diaphoretic. We want to excite again the action of the skin that has been suspended, and, according to the order of the symptoms and the nature of the case, warm applications, and cool and fresh air, and the spirit of nitrous ether, are our best and most effectual means.

Mr. SPARROW saw a case which was accompanied by excessive staling of high-coloured urine:—how would diuretics suit here?

Mr. SIMONDS.—Have the early symptoms occasionally been those of spasmodic colic? or have they supervened in the course of the disease?

Mr. FIELD.—There is often a great deal of gastric irritation.

Mr. RICHMOND.—May not the disease arise from obstructed perspiration?

Mr. FIELD.—There is always a want of cutaneous perspiration.

Mr. CHEETHAM.—The disease seems to arise from or to be connected with every other, colic, inflammation of the lungs, inflammation of the feet. In every case that he has seen, there has been variation in the occasional and almost in the primary symptoms. Colic has frequently been present in the course of the disease, but he did not have recourse to physic, for all that. The only admissible medicines are, tincture of opium, the spirit of nitrous ether, carbonate of ammonia, and nitre. The two first of these, while they relieve the irritation of the disease, will relieve the colic too. The disease has found its way into the extensive brewery of which he has the medical care. Some cases were lost at first; but he has now adopted the full stimulating plan, and he loses no more; he has given as much as half a pound each of the nitrous ether and carbonate of ammonia in the space of four-and-twenty hours. When effusion is once produced, the most important object is accomplished, and the medical attendant has little to do, except to keep up the strength of his patient. He has occasionally given as much as half a gallon of porter to a patient in the course of the day. He does not now bleed. He did so in one case; the pulse was full and strong—the blood was buffy—there was everything to justify the bleeding; but the horse fell, and he rose no more. The grand thing is to support the strength of the animal. This is a fever of a peculiar nature: the skin is highly diseased—the mucous membranes of every kind are frequently diseased, and the intestinal canal does not escape. As soon as effusion takes place, nature tells us that she has set up her own method of cure. In some cases he thinks bad effects have been produced even by rowels and setons. The cause of the disease is some peculiar state of the atmosphere, of what kind he knows not. If the animals have been accustomed to an impure atmosphere, or in other respects have been mismanaged, they will be more susceptible of the disease, and it will appear in an aggravated form. His stables are excellently ventilated, and the utmost attention

is paid to cleanliness; but he one day perceived an unusual fog in them—he could not get rid of it. He thought of the influenza. "It is surely coming to us," said he; and in the course of a few days it did come.

Mr. HOLMES.—So far as he has observed in the College, or in his practice previously, if the pulse evidently indicated bleeding, no bad effects had followed from the use of it, but quite the contrary. The pulse has fallen, and the horse has recovered. He has seen them attacked in the field as well as in the stable. In some the affection of the mucous membrane was confined to the eye, or extended slightly to the mouth.

Mr. CHEETHAM.—He imagined that, if bleeding was ever serviceable, it was when only a small quantity of blood was abstracted, the loss of which, relieving the distended vessels, acted as a stimulus. Horses at grass are attacked by this epidemic; but they have the disease much more lightly than in the confined stables of London. He now sends his five miles away, and the symptoms immediately abate; and the horse that, before, could scarcely move, is soon running about and kicking.

Mr. HOLMES.—There have been nearly two hundred horses with this disease in the College, and the greater part of them have been bled. Two only have been lost that have fairly undergone treatment here; the other two were destroyed by previous bad treatment.

Mr. CARLISLE.—Has practised five years in Cumberland. He has seen the disease, both in the stable and the field. He always bled, and sometimes freely. The horse always appeared to be relieved, and he never experienced the collapse that has been described.

Mr. SPOONER.—It seemed to be acknowledged on all hands that this was an epizootic disease. All horses were liable to its attack, but some were more predisposed to receive it than others. It attacked them even in the open field; but it was most prevalent and most dangerous in stables, and where the horses were most highly fed. He agreed as to the two distinct characters of the disease, symptomatic and idiopathic. He looked upon it as decidedly an integumental disease; but he could not view it as bearing so completely the character of erysipelas. It was more governable, and it was more local; and the cases in which it arises from external wound or inflammation are few compared with those in which it must be traced to this obscure atmospheric influence. He agreed with Mr. Field, that the skin was in a state of extreme inflammation, and that the capillaries were gorged, and could no longer perform their natural functions. The mucous-membrane likewise participated; but the sensorial organic system must be previously affected, or soon implicated, in order to account for the violence of the symptoms. If the pulse was firm, or if it indicated great irritability, surely bleeding, cautiously applied, could not be injurious: he never found it so. The pulse alone would decide whether it was or was not warrantable. As to purgatives he was of the same opinion as Mr. Field. Where they are given, nine times out of ten the animal will sink. They should be avoided, and, generally speaking, all depletive measures. He was surprised to hear Mr. Cheetham say that he should be cautious how he gave anything to lower the system, and afterwards acknowledge that he gave such immense doses of nitre. Where but little medicine has been given, and the patient has been turned into a loose and open box, he has usually done well; and with regard to bleeding he must acknowledge that, where he did bleed, his patients were longer in get-

ting well than some others were from whom he had not abstracted any blood.

Mr. CHEETHAM.—By means of all the doses of nitre which he had given, he had never increased the discharge of urine beyond what he wished; and where he has given it, there has been, and it is of frequent occurrence in this complaint, a tendency to suppression of urine. He considers it to be a disease of the capillary vessels, and, if you dispose of the effused fluid through the medium of the kidneys, you contribute to and hasten the cure.

Mr. SPOONER had no doubt of the accuracy of Mr. Cheetham's statements, but he only argued on the broad principle of the thing. He was afraid of the debilitating effect of too great urinary discharge. There was another point that he wished to mention: Inflammation of the vein—integumental inflammation—had it not been far more frequent since the appearance of this disease? More horses than usual had been sent to the College with phlebitis.

Mr. FIELD.—In his experience, there had been very few inflamed veins, because there had been very little bleeding. Even pneumonia had frequently been treated without any bleeding at all. The disease required a modified antiphlogistic treatment at the commencement, and, where there was no prostration of strength, he might be induced to take a little blood from the eye-vein, but always cautiously, and regarding with terror the collapse that might follow.

Mr. BRADY.—All depends upon the indication of the pulse, and the kind of horse: more blood, and with less danger, can be taken from a light than from a heavy horse. He has thought that the danger of purgation depended on the nature of the drug that was used. He regarded aloes as a very dangerous purgative in this case. Even three drachms of aloes (equal parts of Cape and Barbadoes) destroyed a horse.

Mr. WALLIS has seen between three hundred and four hundred cases of this epidemic. He has almost invariably taken blood in the early stage of the disease. If the pulse ranged from 60 to 80, and was full, he always thought that he was justified in bleeding. In some instances he has taken from 8 to 16 pounds. When the disease is fully developed, he can imagine that bleeding may be unsafe, but not in the early stage. He has been fortunate in his practice, for he has not lost a single case. He always found the mucous membrane of the bowels very susceptible, yet he gives a small quantity of aloes. He knew one horse that died from four drachms of aloes, and another from three drachms; and he believes that superpurgation is the most frequent termination of the disease.—(Conclusion of first day's discussion.)

The debate on "the present Epidemic" resumed. Mr. TURNER first addressed the president, in nearly the following words:—"You, sir, have favoured the association with an elaborate and beautiful description of the influenza which has prevailed amongst horses over the whole face of the kingdom, during the last five or six months. Your classification with regard to the textures of the body which have been the principal seats of the malady, is, in my opinion correct—they are the cellular mucous and serous membranes. With regard to the cellular tissue, no difference of opinion seems to exist, especially with reference to the loose cellular membrane. With regard to the affection of the mucous membranes, particularly the lining of the larynx, trachea, and bronchial tubes, I beg to say, that I think due stress has not been laid on them in this discussion; for so intense has been the inflammation of them in some cases that I have seen the lining membrane of the respira-

tory passages throughout exhibit a grass-green hue, although no other part of the body has shewn any gangrenous appearance whatever; in other cases, suffocation has been the immediate cause of death. In each of these forms of the disease I have found the trachea, as high up as the larynx, choked with a frothy fluid.

I hope that I may be permitted particularly to direct the attention of the Association to the existence of this adventitious fluid, partially obstructing the only known channel through which the breath of life can pass. I attach the more importance to this division of the malady, because it is the key which chiefly unfolds the mystery of the extreme debility attendant on the very commencement of some of the cases, without referring to the sensorium as being involved in the attack, and of the absolute existence of which we have no positive proof.

Mr. Field denies, or appears to doubt, that the serous membranes are affected; but some eminent practitioners, both in town and in the cavalry, have related to me cases in which gallons of water have been found in the chest, in cases of pure influenza.

In the course of my experience in town and in the country, in the army and in private practice, I never remember any epidemic so distinctly marked, and so uniform in its symptoms; and although fatal cases have occurred, I consider that for the most part, it has been a manageable complaint.

The pith of the discussion upon this interesting subject appears principally to turn on the propriety of *bloodletting*. That ordinary purgatives have often proved a certain poison in this malady, is a fact well understood by the enlightened part of the profession; but that we should have had a bone to pick with each other on the propriety of copious bloodletting at the commencement of the disorder is a startling fact; it does not, however, deter me from openly avowing, that I have almost invariably commenced my treatment with a copious bloodletting; indeed, I have seldom stopped there, but have repeated the bleeding on the following day, when I was satisfied that I had been called in at the commencement of the complaint. I have regarded it as a highly inflammatory and continue so to do; although its chief feature, and the most perplexing symptom, is a *prostration of strength, so early* in some cases, that the malady seems to be almost ushered in by glaring debility; hence the dread of bloodletting by Mr. Field and other eminent practitioners, and the idea of *husbanding the resources of the animal*.

This is the influenza in its most insidious and dangerous form; not when there are huge swellings of the limbs—for the mischief is then confined to the cellular tissue alone—but when there is a creeping and spreading inflammation of the larynx and trachea, and extending along the principal bronchial tubes, and without the substance of the lungs being sufficiently affected to indicate the mischief and the danger by laborious breathing; and yet, if it is not arrested sufficiently early by bloodletting, it will terminate by an effusion of frothy mucus into the principal air-tubes, and death will ensue, and sometimes suddenly with gross horses.

By way of testing the feelings of practitioners in this conflict of opinions as to the application of bloodletting, I will suppose a case, and a home one, too. The veterinarian is roused early in the morning by his groom's tap at the door. "Master, your own riding-horse is so ill I can hardly get him out of the stable. His eyes run of water, and the lids are so swelled, that they seem to be turned inside out. He won't take a mouthful of food; his tongue is parched; all his limbs are set, and when he moves he is as weak

as water." The vet's firm impression is, that, although his horse is not on fire his horse is, and "how suddenly too!" he continues, as he communes with himself, "so gallantly as he carried me twenty miles yesterday or the day before, and looking in the highest condition." I now ask, despite of theory, if the vet. could any more refrain from opening his favourite horse's jugular than he could resist sending for the fire-engines in the other case?

Although, Mr. President, we so well agree in avoiding purgatives, I felt alarmed at the two and four-drachm doses of aloes you have prescribed. I have studiously avoided administering a single grain of aloes; nevertheless, I have not been unmindful of keeping the fæces constantly in a soluble state.

I may be reminded presently by some of the experienced band I see around me, that our patient is not always in a state in which any satisfactory quantity of blood can be obtained, however well the vein maybe opened. To meet this difficulty, I have only of late availed myself of a resource which I deem highly important to be communicated to this society. It is the application of one or a couple of sheepskins, reeking-hot from the slaughter-house, to the loins and abdomen of the patient. No costly vapour-bath in which you might place the entire animal could equal in efficacy this expedient. I have seen this, again and again, possessing the power of equalizing the circulation, and enabling us to bleed our patients, and save them from destruction. There are peculiar states of the system during the progress of some pulmonary attacks, in which this would prove an important auxiliary in practice.

In the treatment of these cases, I would also avail myself of counter-irritation to the throat and the windpipe, and occasional scarifications of the engorged limbs. In other respects, my practice would not materially differ from that which you have described.

Mr. YOUATT.—While I am permitted to discharge, as I hope I shall long and faithfully, the duties of reporter of the discussions of our excellent Association, it will be impossible for me to mingle much in your debates; for I shall be too much occupied in recording words, to follow, much less justly appreciate, the train of reasoning. Let this be my apology for frequent or habitual silence. I avail myself, however, of the opportunity of rising thus early in the debate of to-night. You, sir, have with much propriety limited our discussion to "the present Epidemic," thereby avoiding a great deal of loose and general, and comparatively useless, observation on the cause and nature and treatment of epidemics generally. They are all, however, of a kindred type, and by nothing more clearly marked than by that which has been the prevailing or characteristic feature of the present disease, namely, early and utter prostration of strength.

A horse shall to-day be apparently well: in the graphic language of my friend Mr. Turner, he carries us "gallantly our twenty miles and more, and is in prime and tip-top condition." To-morrow he hangs his head, his eyes are closed, the eyelids are swollen, the membrane of the nose is intensely red, or there are ominous shades of livid purple stealing over certain portions of it: the pulse—what shall I say of it? uniformly increased, 40, 60, perchance 100; and its character? full and bounding, small and wiry, oppressed, or that may be annihilated by the slightest pressure—any one of these, according to the progress of the disease, or all of them in the course of a few hours. Generally a slight cough, and, nearly always, enlargements of the parotid glands and under the jaw, and about the throat, and over

the whole of the head,—a decided affection of the mucous surfaces of the upper portion of the respiratory and digestive passages. I fully subscribe to the doctrine of Mr. Turner here. It is decidedly inflammation of the mucous surfaces; and the neighbouring parts either participate in the inflammatory action, and share in the inflammatory engorgement, or in the rapid exhaustion of the vital power, and are the habitation of serous effusions. This is essentially the primary character; for if proper means are neglected, or improper ones adopted, the disease spreads through the respiratory or the digestive passages, and the horse dies of bronchial affection or effusion, or of superpurgation.

But other membranes frequently and rapidly involved—the cellular membrane generally—not the mere integumental or the subcutaneous—but the more deeply-seated—the external fasciæ of the muscles, the more internal ones—the fasciæ of the very fibres of which the muscles are composed, and thus, in some measure accounting for many of the symptoms—the loss of power in the muscle no longer closely compressed by its natural, essential envelope—the livid appearance of the muscular apparatus on dissection, and also the effusion in various parts, and particularly in the hinder extremities, where the circulation is naturally weak, and where it readily acquires a morbid character—the whole tissue being weakened, the orifices of the capillaries deprived of their natural energy and constriction, and every part of the body infiltrated by a serous effusion. I see not here, as some of our friends imagine, a sanative process—a step towards convalescence—but the natural process and effect of morbid capillary action; the affected parts, however, not having undergone a disorganization that is remediless, but, this mischief having been effected, these parts are left to the sanitary resources of nature and of art.

My friend, Mr. Field, of whose extensive experience I am fully aware, and whose general medical tact and sound views of physiology and the treatment of disease no one can admire more than I do, thinks that "the present Epidemic" is a true erysipelas. I confess that I cannot agree to this; for I have the prostration of strength—the exhaustion—which he accounts for as a natural and inevitable consequence of this extensive inflammation actually existing before the inflammation itself. One of the very first symptoms of "the present Epidemic" is weakness, indicated by a greater or less but a decided staggering behind. I have not the burning heat, which must be felt in order to be properly conceived of, that characterizes erysipelas; and one thing is clear as the sun at noon-day, that were I to treat this as an erysipelatous complaint, I should inevitably destroy my patient.

It is primarily a disease of the mucous surfaces, but speedily involving the serous ones, and the cellular texture, which is the basis of both. We can readily account for the tenderness on pressure, the tenderness on moving, the engorgements everywhere, and particularly where the debility of the capillary vessels and their membranes would be first and mostly seen, the rapid and the general waste of strength; and we can form a shrewd guess at the course of treatment that should be pursued.

The mucous surfaces and the reticular tissue, and the vessels which belong to them, are supplied directly by influence derived from the organic system of nerves; and are only indirectly, and to a slight degree, under cerebral influence; we should, therefore, naturally expect, that the symptoms would be of the nature, and follow in the order in which they

present themselves. We should expect essential change in the secretions—rapid exhaustion of vital power, and yet a tendency to a general return to a state of convalescence, either from the unassisted resources of nature, or the adoption of that mode of treatment which is evidently indicated.

As to the cause of "the present Epidemic," I see but little good that can result from puzzling ourselves much about it. Atmospheric influence! it is a vast, a noble field for future research; it will immortalize him who traverses successfully all its paths: but at present it is an undiscovered country, in which we should be cautious not to bewilder ourselves. Atmospheric influence! it is plainly connected with—it is the main agent in the rise and progress of this disease. The horse, in every possible situation, has been attacked by it. He has suffered less when he had not been predisposed and debilitated by bad stable management, and the miasmata of bad ventilation; but he came from the field as well as from the stable, and from a state of high condition almost as often as from the ebodes of cruelty, filth, and want. But what is this atmospheric influence? We can understand how a low degree of temperature should be productive of acute inflammatory complaints—how an elevated one should very materially assist the production of gastric and biliary disease—how the mingled influence of warmth and of wet should produce a thousand poisonous miasms of animal or vegetable origin—how different degrees of electric influence, or different degrees of dryness or moisture in the atmosphere, by condensing or dissipating the electric fluid—by being a conductor or a non-conductor of it—shall brace or debilitate the system of voluntary action, and even affect that of involuntary or organic power, although nature has wisely and kindly removed, in a great degree, the principle of life from its sway: we can fancy, we can guess at something about this; but we have no strict knowledge with respect to it. We see that it influences the character and the very essence of various diseases, distemper, pneumonia, catarrhal disease, perhaps rabies itself; but we know nothing of the *modus operandi*. This is a subject worthy of the devotion of a whole life; but it is unsatisfactory, and somewhat out of place here. I freely confess, that I cannot bring myself to agree with the opinion of our worthy President, that it is to be traced to some strange convulsion of nature—some extraordinary extrication of mephitic vapours from the bowels of the earth in one of those earthquakes that have lately occurred with unusual frequency. The horse alone has been the victim here; but millions of horses and cattle and sheep, and of human beings too, have been swept away by epidemics that have not been preceded or accompanied by any of these terrestrial commotions.

And now for the most important division of our subject, the treatment of "the present Epidemic." Its principal characteristic is rapid prostration of strength; but what is the universal precursor of this?—a state of febrile excitement, quickly indeed passing away, but distinctly recognizable in the early stage of the disease, the medical attendant being on the alert. And have we not here the hot mouth, and the intensely red Schneiderian membrane, and the heaving flank, and the bounding and rapid pulse. We have all of us seen these at times—we might have uniformly seen them had we been called in at the commencement of the disease, or could we have divested ourselves of our preconceived prejudices. But succeeded, as this stage is, and so quickly, by fearful debility, shall we increase that by the abstraction of blood? No; but by breaking this de-

structive chain of diseased action,—by quenching the fire before it has exhausted itself, we may preserve the most valuable part of the building from being attacked. Is there real danger of lessening or increasing the debility? No; not the least. Mr. Braby took the bull by the horns when he told us that the bleeding and the extent of the bleeding, depended on the stage of the disease, and the character of the animal. If we will bleed ourselves, and will lay aside all our foolish rules about certain quantities of blood to be abstracted; if we will place our finger on the artery, and suffer the blood to flow until the febrile character of the pulse begins to change—until the first falter is perceived—we may be perfectly assured that we never shall or can do harm, but shall save much expenditure of vital power, and much consequent exhaustion.

Purging! one portion of the mucous membranes being involved, there is such general and dangerous sympathy established, that it behoves the practitioner to be on his guard; yet in a case of evident and violent febrile affection, he cannot permit the bowels to remain in a constipated state. With the fever medicine—digitalis, nitre, and antimonial powder—which the state of fever indicates. I have been accustomed to combine a drachm dose of aloes. I do not know why, if a purgative is indicated, there should be objection to aloes. Each alternate ball has contained this quantity until the feces have become somewhat pultaceous. The purpose has usually been effected by the third dose, sometimes to a little greater extent than was wished; but there has been no unmanageable super-purgation.

The febrile stage having passed, I confess that I have never ranked among those who leave the reinvigorating of the system to the influence of nature, assisted only by moderately nutritious food. The constitution has received too severe a shock to rally without some other means and appliances. I acknowledge the spirit of nitrous ether to be an excellent tonic in those cases. Of the effect of the carbonate of ammonia I am ignorant. Of opium I should more than doubt the beneficial influence. Nitre I should retain as a useful diuretic, especially when guarded by combination with tonics; but I confess that I was perfectly astounded when I heard my friend Cheetham say that he was accustomed to give eight ounces of the spirit of nitrous ether, and the same quantity of the carbonate of ammonia, and six ounces of nitre, and occasionally half a gallon of porter, in the course of four-and-twenty hours. Surely, thought I, there must be something different from the common make in the horses that could bear up against stimuli like these—were none of them lost? Were the stomachs of those that were lost examined?

I have given the spirit of nitrous ether in doses of an ounce—I have ventured on one ounce and a half; beyond this I have not dared to go; and combined with nitre if the legs are much engorged, and with gentian and ginger in almost every case, it has rarely failed of producing manifest good effect.

The food should be carefully increased in nutritive quality, as the real subsidence of the fever and the general state of the horse will bear. In the early period of the disease counter-irritants will be indicated in the form of blisters and setons: and in cases of great and obstinate engorgement of the legs, the scarifications of Mr. Turner are valuable.

I shall not, sir, often intrude on you, and I solicit your pardon for detaining you so much longer than I had intended.

(To be concluded in our next.)

ON THE RELATIVE ADVANTAGES OF THE DRILL OR BROADCAST SYSTEMS.

FROM COL. LE COUTEUR'S WORK ON THE VARIETIES, PROPERTIES, AND CLASSIFICATION OF WHEAT.

Much has been written on this subject which still appears debateable. My own observations leads me to believe, that it rests mainly on the knowledge, skill, and long practice of the farmer. If a skilful and intelligent farmer, has for a long series of years, hoed, manured, and treated his land, so as to have eradicated all the seed weeds from it, and it remains in so clean a state, that nothing but the intended crop will germinate; then indeed I should say the broadcast system would afford the greatest produce. But if the case be with most farmers, as my own, that the land to be cultivated, is loaded with the seeds of many descriptions of noxious weeds, then I contend, the drill, or partly fallowing process, is that which is alone likely, to enable the farmer to obtain a compensating return from his crops. I have observed a field of wheat sown broadcast in very good rich soil, so completely overrun with weeds, that at the very lowest computation, two-thirds of it was lost. In every case where the ordinary means are adopted, whether the expensive process of hand weeding, or the much less costly mode of hoeing broadcast, it is attended with manifest risk if not most carefully and attentively performed, as any of the young tillers that may be brawn or cut, will reproduce fresh ones, the ears from which, ripen a fortnight or more, later than those which were uninjured; and the crop from such a mode of culture, can never be in the most fit state of ripeness for harvesting.

By the drill process, just before, or about the period, that the wheat is forming its coronal roots, which, from wheat sown on the 18th January, I found, as may be seen by the plate, to be on the 17th of April, there is ample time to have it, lightly but carefully hoed, so that the weeds may be completely destroyed, and the coronal roots find a well stirred soil to work in; moreover the plants, being in a free atmosphere between the drills so cleaned, which the weeds previously to their destruction, breathed in common with them, have the whole benefit of the soil.

Those who desire to sow clover and rye grass, in the Spring, will find it to be good practice, to sow them a day or two before the first hoeing is given, as the same stroke which destroys the weeds, mixes the grass seeds with the soil, which then take possession of it sooner than a second crop of weeds; but this mode which I have found successful, in regard to the future hay crop, is, I consider, at the cost of several bushels per acre on the wheat crop.

My own practice is to put my seed wheat into fresh water, two or three bushels at a time, then stir it, till all the light, injured, or sickly grains, are floated, or skimmed off; the grain thus cleaned is put to soak twelve hours in brine, made strong enough to float a potatoe; it is then put to drain, and is well dried with air slacked lime—no smutty ears appear after such treatment. The land is prepared by two or three ploughings, and a dressing of lime, ashes, or some suitable manure, according to the change required in the food of the seed. The wheat is then sown with a five row drill machine, one of very efficient and simple con-

struction, made by Snowden, of Oxford Street, in drills seven inches apart, at the rate of two, to two and a half bushels the acre, after potatoes, or parsnips.

One careful hoeing in April or May, is then sufficient to enable the wheat to get the upper hand of its enemies the weeds, for which purpose I use a hoe of my own invention, with a very narrow steel blade, not wider than a table knife, with a stout blunt back, and a very sharp edge, the sides being rounded off like some cavalry stirrups I have seen. The workman is thus enabled to place the back of the hoe against the very roots or tillers of the wheat, and thus scoop out any weed from them. In hoeing straight along the drills, the work is performed very speedily, as the round projecting sides of the hoe guide the labourer, and prevent his cutting the plants, the blade being so narrow prevents any accumulation of earth on the hoe, which glides or cuts through the dry surface with great ease, and scarcely any resistance to the person using it. Women or even children can handle it with facility. My gardener has adopted it for all his drilled crops, finding it a safe, commodious, and very powerful instrument. The clover and grasses are sown immediately after the crop has been harvested, which has been found to answer remarkably well, though at the expense of one additional ploughing, a practice I have adopted, having observed it to be corroborative of Mr. Sinclair's experiments, who states in the "Hortus Gramineus Woburnensis," Page 248, "I have sown the seeds of the same grasses in every month of the year, January excepted; and though much depends on the weather and state of the ground, the results were always in favour of the month of September, and the beginning of August; and the next to that, the middle or latter end of May according as the weather was dry."

This principle is obviously in accordance with common sense, for in the first place—the wheat crop receives the whole benefit of the manure which was intended for it, without being deprived of any part of it by the grasses, the land also is as it were, partially fallowed by the hoeing, in the space between the drills, and is thus cleared and prepared for the grasses, at the most propitious season of the year, according to the high authority just quoted—while the stubble that is lightly turned in, is itself a manure for them, and keeps the soil open and light, in a proper state for the young seedlings.

Fallowing for a whole season is altogether too expensive a mode to be adopted by those who pay a high rent for their land, as paring and burning, and the drill system, or a sort of half fallow will answer the purpose equally well. From land in a very bad state infested with couch grass in 1832, by means of paring and burning, previous to taking a crop of potatoes, which produce thirty four thousand eight hundred pounds of saleable potatoes the acre, and with an after dressing of forty bushels to the acre, of kelp or sea weed ashes, I raised forty bushels of fine wheat to the acre. One season I raised fifty five, and last season fifty one bushels to the acre; this year I hope to have reaped as much with drill husbandry though on land in a very bad state, which had been much neglected.

These are not mere assertions without proof, as a reference to my corn and millers book, would furnish all the details.

It may be seen what a perch of ground might be made to produce, by multiplying the nineteen

rows exhibited in the tables, by the produce of No. 3 *Koeleri*; which would give eighty pounds weight to the perch, or ninety bushels to the acre. Now, extraordinary as this may appear, I have no doubt that land, in a perfect state of tith, and with seed suited to the soil and climate, may hereafter be made to bear that quantity.

RURAL POLICE.

AN ORGANIZED RURAL POLICE *VERSUS* THE PRESENT COUNTRY CONSTABULARY FORCE — THE EFFICIENCY OF THE ONE, AND THE INEFFICIENCY OF THE OTHER.

MR. EDITOR.—At a time when the combined energies of that powerful organ, the press—Conservative, Ultra-Whig, and Radical—are being directed, with a force commensurate only with their power, against a measure as yet in embryo; a measure which his Majesty's Ministers, it is understood, will lay before the Legislature early in the ensuing session, and which will have for its object the establishment of a police force throughout the rural districts of England—allow me to place before your readers a few plain observations, bearing, as I consider, materially upon the subject. The motives to be answered by their appearance are, I must observe, neither ambition, gain, the desire of seeing oneself in print, nor the flattering hope of a personal aggrandisement, but a rightly-guided impulse—the welfare of the nation at large.

Divested as ought the subject to be of anything like party spirit, our friends—or the “best possible instructors”—seem to think otherwise, and would view the embryo measure as one of purely Whig origin and design, sanctioned only by Whigs, their supporters, and their satellites. These gentlemen, I dare say, will not be slow to discern the guise under which I appear, and in that seek to affix other than a laudable motive to my design. With all possible deference to them in this respect, I must, then, admit what I am—What? A Conservative!

The county of Chester, from time immemorial, has been strongly marked for its constitutional feeling; this feeling, I am proud to say, not only has existed, but yet exists, amongst the chief body of its magistracy; and, to their credit be it spoken, one of the most beneficial Acts of Parliament which the inhabitants of the county have had bestowed upon them is an Act passed, I believe, in 1827; mainly, mark you, through the influence of *that* magistracy, and called the Cheshire Constabulary Act.

Of this Act it is now my province to speak.

In 1826 the county of Chester was so much infested with robberies and breaches of the peace of every description, that the magistracy, at their quarter sessions, petitioned the then Home Secretary, Sir Robert Peel, for an Act of Parliament for power to establish a police in the rural districts of the county. On the passing of the Act petitioned for, and so denominated “The Cheshire Constabulary Act,” numerous appointments had of course to be made; but, as you may be aware, that however perfect an Act of Parliament of such a nature may be, very much of the benefits to accrue therefrom must depend upon the requisite capabilities of the persons selected to put the Act into force and to carry out its principles upon the manner in which the duties assigned are discharged.

Now, I must admit the benefits have not, for the reasons I have named, been felt equally throughout the county, as, in some of the districts, so great an advantage has not been taken of its provisions as in others. But let an unprejudiced person be asked to compare the state of the county and the efficiency of its police in 1826 with that of 1836. Let him be asked what has become of that nest of ruffians known by the name of the “Rudheath Gang?” What also of those men, the terror of the country for miles around, who resided in Wilmslow and its immediate neighbourhood? I would likewise ask, where were the Cheshire farmers in 1831, when the farmers in the south were suffering under the hand of the incendiary? What for an answer?—but that the Rudheath and Wilmslow marauders have, at his Majesty's expense, been sent to visit a foreign land, and that the Cheshire farmer, during incendiary fires, remained quiet and unmolested in the tenure of his possessions. And to what may these results be attributed? To the Tory Magistrates' Cheshire Constabulary Act.

To laud our Constabulary Act is not my present design; but as Cheshire is the only county in England where a similar Act, to what I imagine is meant by the Government measure of a “police for the rural districts,” is in force, my object will be to draw your attention to a comparison of that county with others during the period I have been speaking of. Look how the adjoining county of Salop suffered by incendiarism; witness the numerous fires which there took place before any clue of discovery could be ascertained. It may be said the hand of the incendiary did show itself in this county. I grant it did: and to what extent were its ravages carried? Was it permitted to go from farm to farm, as in the county just alluded to, and where no rural police existed? It was not. Neither had the township nor individual injured to be at the expense of sending near 200 miles for a Bow-street officer, they had a police in their own district; not a distrustful one, but one upon which they could rely; and what was the consequence? The ends of justice were obtained, and conviction and execution to the offender followed.

There is one very specious argument used by our opponents, the fallacy of which the following may show. The Cheshire Constabulary Act has been in operation about nine years; during this period has it ever been employed as an organ or spy of Government? Has it anything of the *gens d'armie* about it? has it been an useless and wasteful expenditure of public money? been thwarted to any bad purpose, in any one way; or has it conveyed either insult to the magistrate, or oppression to the lay-payer? I do deny that it has in any one case.

Having said thus much in favour of a specific Act, I will now state to what extent I would advise in making such specific Act a general one. The basis of my plan should be to interfere as little as possible with the village officer, as by law now appointed. But I would delegate to the Court of Quarter Sessions the power of appointing, on the application of a majority of magistrates acting for a division or hundred where a regular petty sessions are held, an efficient police officer, of at least five years' standing, with one or more assistants; the which to be at the discretion of the magistrates, paid officers out of the county or hundred rate, who should have a jurisdiction as constables over the whole of the county. Their duty should be to attend the magistrates at their

regular petty sessions (under whose immediate commands I would place them); to hold themselves in subservience for acting upon all occasions in cases of felony, or otherwise. The chief officer to be stationed in the centre of each district, and where both magistrate and lay-payer might find him easy of access.

I have said I would interfere as little as possible with the present village officer; he may be of much service in a case of emergency, being on the spot; but it would be bad policy indeed to rely alone upon his exertions. Look at many if not all rural villages; the office of constable is served in rotation, and families have, for ages, married and intermarried one with another. A most respectable villager this year serving the office of constable may have an uncle, cousin, or other relative, an abandoned character; but would he like to apprehend one of his own kindred, however distant that relationship, on a charge of felony? Sure this would almost be a violation of the principles of nature. In such a case would he set out until in a manner compelled; and would he then, even if he had the ability of a Bow-street officer, act, and do his utmost to detect—would he make that search either for the stolen property or the felon as the case requires? Would he not prefer that the deprecator should escape, he himself spared all trouble, and his family the stigma of disgrace?

Does it, I would ask, seem right that the country constable should be carried away from his business—for a week, it may be—to attend a sessions or assize, and where the amount of remuneration would leave him money out of pocket?

There are yet other ways in which I view the benefit of a rural police; and one, not the least important, is in the prevention of crime. A thief at all times calculates upon the chances of detection; in a rural district that calculation of chance amounts to a degree of certainty. I would say, let a district police but get a reputation for activity, and crime will decrease. The terror the idea which such a force carries over the minds of young Sabbath-breakers and poachers, will cause a great diminution of those offences, and in some cases, it may be hoped, may cause an entire abandonment of them: in degree as such offences are repressed will there be fewer of those hardened characters to cope with, whose crimes so frequently harrow up in our breast a feeling both of horror and disgust.

To those of our readers who may live in, or have some knowledge of, a rural district, I would put this question. It may happen that a farmer, amidst a company of his labourers, and perhaps in returning home late some evening, may have seen, or overheard from some one of them, something very suspicious respecting a villager or other person residing within a few miles of the place, and which it may occur to him might have the effect of forming a clue to the discovery of a chief deprecator in a case of felony recently committed. Is the innocent country constable the person he would like to communicate with? Does he not rather keep the secret, for fear the constable should reveal the information he has given him, and the source from whence he obtained it, and thus make a bad character, in all probability, his informant's enemy? I speak advisedly when I say, that the dread of having their names mentioned keeps back much valuable information until it is too late to be of use. But establish a respectable and discreet person at the head of

your police establishment, he gains the confidence of the people, the timid know that their names and information are sacred at his hands, and by that means the character of all suspected persons are made known to him, their haunts and habitations are described, and the officer thus becomes possessed of a most important part of their history.

There are yet important considerations. Is any one, whether magistrate, jurymen, or other individual, who may have been a studied observer of our sessions and assize—I would appeal whether they may not oft have witnessed the acquittal of most hardened and desperate characters, from rural districts, through the blundering and inattention of the country unpaid officer (or of those whose salaries may be so small, though great for the population of the township, that their attention or inattention to business would depend upon the fees); whether that observance has been paid in attending to information, or if in alacrity in the pursuit of an offender, as would seem there might have been; and whether individuals who may have suffered from robbery have not frequently had much cause to complain of a lukewarmness in the recovery and restoration of their property; and to the magistrate of the rural district, if he has not had much information frequently conveyed to him, which, had he had proper officers near him to communicate with, might have been available to some purpose?

Is it not a fact that the efficiency of the police in towns will drive the offender into the rural districts, where he may expect to commit his depredations with impunity, and with little chance, indeed, of detection; and where a constable is but a laughing-stock for the well-practised dupe? A thief is a rover, and will assuredly in his roving take that track which offers the best booty with the least fear of detection. The loneliness of the gentleman's villa and the poor man's cottage, both afford great facilities for his depredations. How much property is there not left out of doors, and totally unprotected; devoid even of that protection, the passing and re-passing of individuals, which, on the contrary, the mercantile district affords. Does it not reasonably seem, then, that the rural interest should have an equal if not greater protection afforded it than the mercantile, with its exclusive advantages? This would be but even-handed justice at our hands.

With respect to our innocent neighbours, I would ask you, is it because a villager, on a certain day in each year, takes the oath of allegiance to our gracious sovereign, that his whole character and person are changed, that he becomes, in a manner, newly enlightened? Does the possession of a painted staff so brighten his faculties, that although the week before he was not able to take his horse to the fair and return home without being duped out of the produce money, now enable him to have that penetration and knowledge of human character, with its numerous vices, in a sufficient degree to qualify him to be the guardian both of his own and neighbours' property?

The felon, too, of the present day, let me here remind you, is a character far removed from what the Dogberrys a century ago had to cope with; and as he, in his acuteness, has partaken of the march of intellect, so ought the constable of the present day to be a character far different in intellectual skill to the generality of those appointed over rural districts.

A rural police may with much aptitude be compared to a bundle of sticks; a number of townships, being rated together and acting conjointly, are enabled to do what the expense will not enable any one thinly-populated district to do of itself.

I have for some time past been a close observer of police affairs, and I do consider that no branch of the administration of justice requires a greater consideration, or looking into, by the legislature, than does that of our police; from its origin to the present day it would present nothing but one complete anomaly. With respect to the officer, no class of men are more exposed to temptation; and, from its present construction, as existing in this country, no class have suffered more from the effects of that temptation. From his inefficiency, too, the public have likewise suffered much. At present the police is a line of life, a refuge for the destitute. Few, very few, take to it from choice; it is not until an individual has tried every other source of livelihood, and in them having failed, that he, in fact, considers himself an object of sufficient degradation to become an officer of police. It is, then, truly a dernier resort. The result of my inquiries in respect of this assumption, and they have been extensive, informs me but of two or three instances in which persons have been brought up from their youth to the police business, and in these, it is some pleasure to add, the parties have risen, by their studied ability and exercise of a strict line of conduct, to the highest situations in their profession. I should, therefore, most strongly recommend, were I one whose information might be admitted, that opportunities be afforded for qualifying respectable youths, whose forte the police might be, to that profession, and, as most important, would I inculcate the necessity of his being engrafted well in the laws applicable to the numerous cases he would have to deal with, varying so much as they do in their distinctive applications. Indeed, I consider that the attainment of a perfect knowledge in the officer of police will require as much assiduous study and application as that of any other profession; and nothing, in my opinion, appears so absurd as the practice of making an individual a constable one day and the next requiring him to discharge the duties of a regular police officer.

In winding up my letter, which has grown immeasurably long, allow me to add one word with respect to the financial part of my subject. There is a division in this county, under the Act, comprising forty-three townships, a division, in fact, where, too, it is most efficient, the cost of which, to the rate payers, is 210*l.* per annum; a sum which the most economic financier cannot deem high.

I am, Sir, your obliged,
MERCATOR.

At a General Meeting of the Members of the Rutland Agricultural Society, holden at the Crown Inn, Oakham, on Monday, January 2, 1837, Mr. C. Smith, of Burley, the senior and retiring Steward, nominated Mr. Clarke Morris, of Oakham Grange, as his Successor, and he was unanimously elected. Mr. Robert Smith, of Burley, the senior and retiring Secretary, was unanimously re-elected. Moved by William Sharrard, Esq., and seconded by John Morris, Esq., that a vote of thanks be offered to the Stewards and Secretaries for their able and impartial services of the last year.

(Signed) RICHARD WESTBROOK BAKER,
Chairman.

RUTLAND AGRICULTURAL SOCIETY
CHRISTMAS SHOW,

(To be holden by Permission of the President,)

In the RIDING HOUSE, OAKHAM,

On TUESDAY, NOVEMBER 28th, 1837.

President.

Sir GERARD NOEL NOEL, Bart., M.P.

Vice-Presidents.

Hon. H. C. Lowther, M.P.	T. F. Turner, Esq.
Sir Gilbert Heathcote, Bart., M.P.	E. W. Wilmot, Esq.
Sir John Trollope, Bart.	Stafford O'Brien, Esq.
Sir John Palmer, Bart.	Thomas Hotchkiss, Esq.
G. J. Heathcote, Esq., M.P.	Henry Wilson, Esq.
George Finch, Esq., M.P.	Henry Dawson, Esq.

Stewards.

E. W. Wilmot, Esq., Pickwell.
Mr. J. Burgess, Ridlington Park,
Mr. C. Morris, Oakham Grange.

Secretaries and Treasurers.

Mr. Rudkin, Lankham Lodge. Mr. R. Smith, Butley.
Mr. H. Stimson, Oakham.

This Society extends to every Parish, the Town or Village of which is situate within fifteen miles in a direct line from the Town of Oakham.

PREMIUMS offered for Stock duly qualified and properly certified according to the Conditions, and Fed within the limits of this Society, except in Classes I., VIII., & XIII.

CLASS I.—Oxen or Steers, of any breed or weight under 5 years of age, without restrictions as to feeding, but the kind or kinds of food must be specified. Open to all England	Sovereigns.
To the Feeder of the best fat Ox or Steer, a Premium of	15
To the Feeder of the second best ditto, the 2d Premium of	7
CLASS II.—Oxen or Steers of any breed or weight, under 5 years of age, that shall not have had from the 1st February, 1837, to 1st August, oil, oil cake, corn, pulse, seeds, or meal of these—	
To the Feeder of the best fat Ox or Steer, a Premium of	10
To the Feeder of the second best ditto, the 2d Premium of	5
CLASS III.—Oxen or Steers of any breed or weight, under 5 years of age, bred and fed within the district, that shall not have had from the 1st of February, 1837, to the 1st of August, oil, oil cake, corn, pulse, seeds, or meal of these—	
To the Feeder of the best fat Ox or Steer, a Premium of	10
To the Feeder of the second best ditto, the 2d Premium of	5
CLASS IV.—Oxen or Steers of any breed or age, that shall not have had from the 1st February, 1837, to the time of showing, oil, oil cake, corn, pulse, seeds, or meal, of these—	
To the Feeder of the best fat Ox or Steer, a Premium of	7
To the Feeder of the second best ditto, the 2d Premium of	3
CLASS V.—Cows or Heifers of any breed or weight, under 5 years of age, without restrictions as to feeding—	
To the Feeder of the best fat Cow or Heifer, a Premium of	7
To the Feeder of the second best ditto, the 2d Premium of	3
CLASS VI.—For Fattened Dairy Cows, above 5 years of age, that have calved twice at least at their full time, without restrictions as to feeding—	
To the Feeder of the best Fat Cow a Premium of	7
To the Feeder of the second best ditto, the 2d Premium of	3
CLASS VII.—To the Owner, being a Tenant Farmer, of the best Pair of Steers, bred within the district,	

and under two years of age at the time of showing, that shall not have had oil, oil cake, corn, pulse, seeds, or meal of these, for one year previous to the time of showing—

- To the Owner of the best Pair of Steers, a Premium of 5
- To the Owner of the second best ditto, the second Premium of 2
- CLASS VIII.—Long-wooled fat Wether Sheep, one year old, without restriction as to feeding.
Open to all England—
To the Feeder of the best Pen of three, under 22 months old, a Premium of 7
- To the Feeder of the second best ditto, the second Premium of 3
- CLASS IX.—Long-wooled fat Wether Sheep, one year old, bred and fed within the district, that have not at any time eaten oil, oil cake, seeds, corn, pulse, or meal of these—
To the Feeder of the best Pen of three, under 22 months old, a Premium of 7
- To the feeder of the second best ditto, the second Premium of 3
- CLASS X.—Long-wooled fat Wether Sheep, two years old, fed within the district, that have not at any time eaten oil, oil cake, seeds, corn, pulse, or meal of these—
To the Feeder of the best Pen of three, above 22 and under 34 months old, a Premium of 7
- To the Feeder of the second best ditto, the second Premium of 3
- CLASS XI.—Breeding Ewes, that have suckled Lambs up to the 1st of July, 1837, bred within the district, and that have been fed on grass and seeds only for six months previous to the time of showing
To the Exhibitor of the best pen of five, a Premium of 5
- To the Exhibitor of the second best, the second Premium of 3
- (Persons who have Let six or more Tups in the Year 1837, not to show for this Premium.)
- CLASS XII.—Long-wooled Wether Lambs, bred and fed within the district, without restrictions as to feeding.
To the Feeder of the best Pen of Five 3
- CLASS XIII.—Pigs of any breed or age, weight above twenty stone. Open to all England.
To the Feeder of the best Fat Pig, a Premium of 4
- To the Feeder of the second best ditto, the second Premium of 2
- CLASS XIV.—Pigs of any breed or age, weight under twenty stone, bred within the district.
To the Feeder of the best Fat Pig, a Premium of 3
- To the Feeder of the second best ditto, the second Premium of 1
- CLASS XV.—To the best Stallion for the general purposes of Agriculture from any county, that will attend at Oakham and Uppingham once a week during the season of 1837, and cover as many Mares as may be offered to him, (not beyond a reasonable number,) and at a price not exceeding 25s per Mare—
To the Owner of the best Stallion, as above, a Premium of 10
- (The Premium to be awarded on the first Monday in April, 1837, and paid on the first Monday in July following.)

PREMIUMS

Offered by Lord Barham.

- CLASS XVI.—To the Owner of the best bull that has or shall serve as many Cows as have been or may be offered to him in the district (not beyond a reasonable number) and not exceeding 10s a Cow.
To the Owner of the best Bull, a Premium of 7
- To the Owner of the second best ditto, the second Premium of 3
- (These Premiums to be awarded on the First Monday in April, 1837.)

- Offered by Stafford O'Brien, Esq.*
- CLASS XVII.—To the Owner, being a Tenant Farmer, of the best Cow in Milk that has calved within nine months of the time of showing, and bred within the district. Sows
- To the Owner of the best Cow, a Premium of . . . 5
- To the Owner of the second best ditto, the second Premium of 2
- Offered by the Hon. Berkeley Noel.*
- CLASS XVIII.—To the Owner, being a Tenant Farmer, of the best Heifer under two years and six months old at the time of showing, and bred within the district.
- To the Owner of the best Heifer, a Premium of 7
- To the Owner of the second best ditto, the 2d Premium of 3
- Offered by Mr. T. Standwell.*
- CLASS XIX.—To the Owner of the best Boar that shall serve as many Sows as may be offered to him within the district (at a reasonable price.)
To the Owner of the best Boar [This Premium to be awarded on the First Monday in April, 1837.]
- Offered by Sir Gerard Noel Noel, Bart., M.P.*
- To the Tenant Occupiers of not more than 30 Acres of Land in the district:—
- CLASS XX.—To the Owner of the best Cow in Milk, to have calved within nine months of the time of showing, a Premium of 5
- For the second best ditto, a Premium of 3
- CLASS XXI.—To the Owner of the best Heifer under two years and six months old at the time of Showing, a Premium of 4
- For the second best ditto, a Premium of 2
- CLASS XXII.—To the Owner of the best Calf under eight weeks old at the time of Showing, a Premium of 2
- To the second best ditto, a Premium of 1
- CLASS XXIII.—To the Owner of the best fat Pig, of any weight, a Premium of 2
- Ditto to second best 1
- Also by Sir Gerard Noel Noel, Bart., M.P.*
- To the Occupier of Land, being a Tenant Farmer, who shall send to the Show-yard, on or before Monday at noon, November 27th, the best Sample of not less than 4 Bushels of Oats, thrashed out from a Crop of his own growing in the district in 1837, a Premium of 2
- Offered by the Rev. Henry Nevile.*
- To the Occupier of Land as above, for the best Sample of not less than 4 Bushels of Wheat, a Premium of 2
- To the Occupier of Land as above, for the best Sample of not less than 4 Bushels of Barley, a Premium of 2
- Offered by Henry Nevile, Esq.*
- To the Occupier of an Allotment who shall not grow more than Half a Rood of Wheat, for the best Sample of not less than 1 Bushel as above, a Premium of 1
- Also by Mr. Baker.*
- 2d Premium as above 10s
- 3d ditto ditto 5s
- Offered by E. W. Wilmot, Esq.*
- To the Labourer in Husbandry who has brought up the greatest number of Children, and has never received parochial relief excepting in Sickness (then the amount received to be stated in his certificate), and can produce the best character from his Employer, a Premium of 3
- To the 2d best ditto, the 2d premium of 2
- To the 3d best ditto, the 3d Premium of 1
- (Candidates for these premiums must produce certificates, signed by their respective Masters, and the Churchwardens and Overseers of the parish to which they belong.)
- Offered by Mr. T. E. Pawlett.*
- A Silver Medal to the Breeder of the best Pen of Sheep in Class 9.
- Also by Mr. T. E. Pawlett.*
- A Silver Medal to the Breeder of the best Pen of Sheep in Class 10.

Offered by Mr. R. Smith.

A Silver Medal to the Breeder of the best Beast in the Yard that has been bred within the district.

Also by Mr. R. Smith.

A Silver Medal to the Breeder of the best Pen of Ewes in Class II.

Offered by the Society.

A Silver Medal to the exhibitor of the best Pair of Mares, for the general purposes of Agriculture.

Also by the Society.

A Silver Medal to the exhibitor of the best yearling Gelding Colt or Filly, for the general purposes of Agriculture.

The following Sweepstakes open to all England.

A Sweepstakes of One Sovereign, for the best Beast, of any breed, age, or weight.

A Sweepstakes of One Sovereign, for the best Cow or Heifer in Milk, that has calved within nine months of the time of showing.

A Sweepstakes of One Sovereign, for the best pair of Mares, for the general purposes of Agriculture.

A Sweepstakes of One Sovereign, for the best yearling Gelding Colt or Filly for the general purposes of Agriculture.

A Sweepstakes of One Sovereign, for the best Pen of 3 Sheep, of any kind, breed, or age.

A Sweepstakes of a Sovereign, for the best Sheep of any kind, breed, or age.

A Sweepstakes of a Sovereign, for the best Pen of 5 Breeding Ewes, of any breed or age, that have suckled Lambs up to the 1st July, 1837, and that have been fed on Grass and Seeds only for 6 months previous to the time of showing.

A Sweepstakes of Half a Sovereign for the best Pen of 5 long-woolled Wether Lambs.

A Sweepstakes of One Sovereign, for the best Pig of any breed, age, or weight.

* * * The above Sweepstakes to close on Monday, November 13th; and the same conditions and form of certificate and instructions to the Judges to be observed as for the Premiums.

Oakham,

Jan. 4th, 1837.

(Signed) { H. J. RUDKIN
HENRY STIMSON
ROBR. SMITH.

CULTIVATION OF BEET-ROOT IN ENGLAND FOR THE MANUFACTURE OF SUGAR.—There has been exhibited of late in the London Sugar Market samples of refined sugar made from beet-root cultivated in England. The quality and colour of this novel article is said to be good, the price asked for it is at the rate of 5*l* per cwt. It is asserted that a trial of the cultivation of this plant for the above purpose will take place; that government will, it is understood, give every facility in its power for experiment, and not encumber it, while in its infancy, with the question of duties.

EASTBOURNE.—Copy of circulars delivered Jan. 6th, 1837, at the workhouse Eastbourne:—"In the autumn of 1835 fourteen farmers of the parish of Eastbourne allowed land to be dug for them as a trial of spade husbandry; and on the 10th of November following reported to their vicar the Rev. Thomas Pitman at his tithe audit that the produce from the land dug was not inferior to that from the land ploughed. Mr. John Gedney, a tenant near Harleston, Norfolk, is employing between twenty and thirty men to dig his land instead of ploughing it; giving the food formerly consumed by his farm horses to oxen, stall fed, which he finds eminently profitable; and if the Guardians of the Eastbourne Union will each allow any one man now supported in their workhouse to dig an acre of the land occupied by them I am ready to pay twenty shillings for the same, the sum for which thirty men petitioned for this work last January at Eastbourne. Signed J. S."—Jan. 6th, 1837.

REPORTS TO THE POOR-LAW COMMISSIONERS.

TO THE POOR-LAW COMMISSIONERS FOR ENGLAND AND WALES.

We, the guardians of the poor of the Bedford Union, in the county of Bedford, having observed with infinite regret the various efforts made by interested individuals, and by some of the daily prints, to render the Poor-Law Amendment Act hateful and odious, consider it a duty we owe to the public to endeavour, by the weight of our testimony as practical men, to counteract the same by the following expressions of our sentiments.

The union for which we are the guardians comprises 44 parishes, an area of 100,000 acres, and a population of upwards of 30,000 souls; and is consequently so extensive in every respect, that it is particularly desirable that those entrusted with the administration of its affairs should make the following facts and sentiments public.

This union was formed in September, 1835, by D. G. Adey, Esq., Assistant Poor-Law Commissioner; and although great relief was anticipated from an alteration in the system of administering the Poor-Laws, the advantage resulting from the change has far exceeded the expectations of the most sanguine. The pecuniary statement for the first year, ending September 24, 1836, is as follows:—

Out-Relief	£6,031 10 10
In-Maintenance.....	902 12 10
Establishment.....	1,964 15 10
	<hr/>
	8,898 19 6
Migration and Emigration	238 17 1
	<hr/>
	£9,137 16 7

The average of the three years ending Lady-day, 1834, 25,716*l*.

Saving per cent. 70½.

This important reduction has not been attained by hardship or severity to the labourers, or by causing privations of any description to the aged, the infirm, the orphan, or helpless, or the really necessitous poor (for, on the contrary, their interests have been attended to with the most scrupulous care and consideration), but it has been accomplished by economy in the general management, by the absence of all expence in the legal litigation, and by the complete removal of imposition and carelessness which unfortunately existed under the old laws.

We observe with feelings of extreme satisfaction, that this considerable pecuniary saving has been accompanied by the most gratifying symptoms of increasing industry, civility, prudent habits, and integrity of conduct among the labouring poor, and that it is evident the new law is quietly, but surely, working a great moral improvement in the habits and feelings of this class of the people. Fathers evince greater kindness and thoughtfulness for their children; and able-bodied and vigorous youth, instead of, as formerly, neglecting his aged parents, now contributes willingly to their wants and necessities; and the wretched and degraded pauper, who was formerly existing upon the miserable but certain pittance "allowed by the parish," is now, by the regenerating spirit of the new system, an active and useful member of society, and supporting his family by the honest earnings of free labour; to which may be added the cheering facts, that during the last year friendly societies have rapidly increased, and commitments to prison have been less by one-fifth than in the preceding twelve months. Such are a few of the results of the new Poor-law, and we with greater pleasure reflect upon them when we consider that, in the partial evils that almost of necessity attend any general good, the worst that can occur to the able-bodied in real necessity is the offer of a temporary residence in the workhouse, where a sufficient maintenance is afforded, together with medical aid and spiritual consolation; and a schoolmaster and schoolmistress to the formerly-neglected children, by whom they are taught a plain but useful education, and also instructed in two or three

branches of trade which we deem may be of service to them hereafter. We highly value the benefit resulting from the superintendence of a central board, not only for the advice and assistance we receive when there happens—which, however, seldom occurs—to be a difference of opinion amongst us; but we also recognise it as the only tribunal that is entirely divested of local feelings and private motives, and capable, from your daily-increasing experience, of securing the ultimate relief of the poor throughout this country on sound and just principles.

For these reasons we express our earnest hope, that the Legislature will not listen to the gross misrepresentations and idle clamours raised against the Poor-law Amendment Act: for whatever differences may exist in some of the minor details in that measure, we are most decidedly of opinion that its effects have been highly advantageous to this union; and we should hear with great distrust and alarm of a design to make any material alteration in its provisions; for, from the experience we have already had of its salutary effects, we seriously and conscientiously believe that the most beneficial results to the community may be anticipated, and more particularly to the poor themselves.

Given under our common seal this 24th day of December, in the year of our Lord 1836.

Sealed by order of the Board,

(Signed) SAMUEL WING, Clerk.
CHRISTOPHER BELL, Vice-Chairman.

Resolved unanimously,—That this address be forwarded to the Poor-law Commissioners, through D. G. Adey, Esq., Assistant Poor-law Commissioner, to whom this board feel extremely indebted for his valuable assistance and straightforward conduct since they have had the satisfaction of acting with him.

CHRISTOPHER BELL, Vice-Chairman.

TO THE POOR-LAW COMMISSIONERS FOR ENGLAND AND WALES.

At a meeting of the Board of Guardians of the Ampt Hill Union, held in the board-room of the Ampt Hill Union Workhouse at Ampt Hill, on Thursday, the 15th December, 1836—

It was resolved, That the Ampt Hill Union having been formed nearly two years, the Board of Guardians have no hesitation in declaring the peculiar satisfaction with which they regard the operation of the new Poor-law act.

That the guardians having heard and read of several statements made by parties who either through ignorance or party spirit are obnoxious to the principles of the new poor-law, and who have circulated reports which upon inquiry into the facts have been found utterly at variance with truth and sound principle, deem it a duty they owe not only to themselves but also to the numerous body of rate-payers whom they represent, thus fearlessly to acknowledge that the mode of administering relief to the poor by the establishment of boards of guardians has, under the guidance of the central board, proved one of the greatest blessings which has been conferred upon the community at large by any act of the Legislature during the nineteenth century. That no less than 1,086 poor persons have, within the last twelve months, personally had an opportunity of stating their situation to the board, and thereby had an unprejudiced tribunal to adjudicate upon each particular case.

That a reduction in the poor-rates has been effected to the extent of forty-five per cent., and this not by depriving the aged and infirm, or helpless widow, of any comfort, but rather, as can readily be proved, by conferring upon them many important benefits, and, in truth, increased allowances; while, on the other hand, the habitual, sturdily, able-bodied pauper's habits of idleness have been put to the test, by the offer of a well-regulated workhouse, where a comfortable maintenance is provided.

That in several of the parishes of the Union an extraordinary favourable change has been made in the morals and habits of many, who formerly appeared to be incorrigible.

That the board have no reason to condemn the repeal of the former bastardy laws, and can with safety state that not a case of infanticide or desertion of spurious issue had come to their knowledge.

That the guardians feel it to be their duty unfeignedly to express the great advantage they have derived from the able manner in which the poor-law commissioners have assisted them in every point of difficulty which has been submitted to them, and consider that they are bound to uphold the benefits which they have derived from appealing to the Central Board, divested as it is of local interest and party feeling.

That a copy of the foregoing resolution be forwarded to the poor-law commissioners for England and Wales, and that they be requested to lay the same before the Secretary of State for the Home Department.

(Signed)

Henry M. Musgrave, Chairman, J.P.
T. W. Overman, Vice-Chairman.

James Crouch.	John Langton.
Benjamin Carter.	John Lines.
John Tresham.	James Beard, J.P.
William Boughton.	G. Musgrave, J.P.
John Maddams.	Robert Turle, Jun.
Samuel Harradine.	Samuel Bennett.
George Green.	J. Eagles.
John Leabrook.	James Horn.
Thomas Marshall.	Thomas Kempson.
John Bosworth.	James Thomas.
Wm. Stimson.	—

(Copy.)

WOBURN UNION.

The Board of Guardians of the Woburn Union had the honour of transmitting to the Poor-law Commissioners in January last a report of their proceedings under the Poor-law Amendment Act, since which time they have taken possession of the new workhouse, and have much satisfaction in stating that it fully answers the purposes for which it was designed, affording means for a complete classification of the inmates, and of establishing a perfect state of discipline. The importance of such objects is strikingly exemplified in the improved condition of the inmates themselves, and in the paucity of their numbers.

OUT-DOOR RELIEF.—This comprises the most numerous class of paupers, and we are not aware that any reasonable ground of complaint exists among them.

RELIEF IN KIND.—To the aged widows and labourers of good report, struggling under the pressure of declining years, it is the practice of the board to administer the provisions of the Act with much kindness, indeed with the utmost latitude that a proper interpretation of the regulations of the commissioners referring to this subject will admit.

IN-DOOR RELIEF.—The advantage of the workhouse as an asylum for orphans and other children thrown upon the care of the guardians is observable in their improved appearance and conduct: they daily receive instruction in their religious and moral duties, are taught to read and write, and are also employed profitably in the same way which may lead to their future advancement in life. The sick and aged inmates, who might but for this asylum be exposed to severe privation, have every comfort and attention which their necessities require; such of them as are able to do any work are usefully and humanely employed.

POOR-RATES.—It has been observed, that upon the introduction of the present system a very considerable reduction was made in the poor-rates, amounting upon an average, to nearly fifty per cent. throughout the union; this principle of reduction still continues to operate, though of course now in a small degree. The board think it right to observe, to a certain extent, this reduction has been assisted by the demand for labour on the London and Birmingham Railroad, now in progress near this district.

LABOURING CLASS.—The change for the better in the conduct and character of the labouring class is still progressive, and is esteemed by the board as a benefit of much higher value than the reduction of the poor-

rates: the fact is not only evident to the board, but is confirmed by the testimony of the occupiers of land in every part of this union. The labourers seek work more diligently than heretofore, and having obtained employment, they show by their behaviour that they entertain a proper sense of its value.

BASTARDY.—Whatever objections may elsewhere be raised against the bastardy clause in the Act, the effect of its working in this union has obviously been to give a check to that open licentiousness which formerly prevailed among the lower classes. The offer of the workhouse to women with illegitimate children has seldom been accepted, and all relief out of it is invariably refused.

UNIFORMITY OF DESIGN.—The guardians cannot withhold their tribute of admiration, so justly due, to the uniformity of design with which it is proposed that the system now formed under the provisions of the Poor-law Amendment Act shall be hereafter conducted; this they conceive to be the sustaining principle, calculated to give efficacy and energy to every department of its administration.

POOR-LAW AMENDMENT ACT.—We hear that much controversy has arisen upon the subject of this Act, and that it has been held by some to be oppressive and injurious to the interests of the poor. In submitting this report to the commissioners it is not the intention of this board to enter into the conflicting opinions, with a view either to depreciate the value of this Act, or to represent it as perfect. It is the province of the board, in administering the affairs of the union, only to state the facts which have fallen under their observation, and the benefits resulting from them. To the arguments used in support of the unfair statements which have been made, and the declamatory censure employed in order to render the statute the object of odium and unpopularity, the board might reasonably urge their decided objection; but originating, as it is believed they do, from a spirit of opposition and factious motives, or from an entire ignorance of the working of the measure, it is hoped they will soon cease to have any influence on the public mind.

Signed and sealed by order of the Board,

WILLIAM COLE, Clerk.

Woburn, December 26, 1836.

THE MODE OF PREPARING BURNT SOIL FOR MANURE, AND THE MANNER OF APPLYING IT FOR VARIOUS CROPS.—The quantity of ashes, or burnt soil, necessary to apply to land, will depend on the fertility and quality of the latter, and the crops to be sown; and must, likewise, be regulated by the properties of the soil prepared by burning for this purpose. With respect to the former observations, it may be safely asserted that most soils are benefited by this manure, and on light land especially, I have always found it more fertilizing than lime. On strong clays, however, this latter stimulant may be preferable, for correcting over-tenacity, and for decomposing the vegetable matter it may contain; but on friable or loamy soils, burnt earth will effect a more certain improvement. It is also well ascertained, that peat or bog derives but little benefit, by a dressing of lime, until the surface be first gravelled or marled, which is a heavy expense, but can be easily brought into fertility, by paring and burning, and good crops of rape or turnips produced the same season. The most beneficial mode, however, of applying burnt soil, is, by mixing with it a proportion of well-prepared dung; as the former will promote quick vegetation, and the latter afford nutriment to the growing crop at the same time. In dry seasons, especially, it will be found, that burnt soil will attract moisture from the atmosphere; whereas, dung will absorb it from the soil alone, and

consequently, deprive the growing crops of this nutriment. I have often seen farm-yard dung, after a dry season, at the time of digging out the crop, to which it had been applied, as cry as chaff, and the potatoes not so good as on a part of the same field, where no dung whatever was laid on. Dung, to be beneficial to the growing crop, should decompose in the soil; and this it will not do, unless it receives sufficient moisture, while in the land, and is previously well prepared. The best mode of applying burnt soil and dung, mixed, is in drills—for potatoes, swedes, or mangel, at the rate of 80 loads to the Irish acre—but, on light or exhausted land, 30 or 40 additional loads will be necessary. This compost, being first well pulverized, should be laid in the bottom of the drill, and the crops to be sown managed in the usual manner. For Swedes, or Scotch turnips, however, it is advisable not to mix the dung and ashes, preparatory to carting out, but to deposit the former in the drills, and then to turn out the latter, that they may be scattered, indiscriminately, over the surface; and, in covering the drills in, they will be mixed with the soil, and concentrated on the top of the ridge, by which mode, quicker vegetation will be promoted, and the ravages of the fly, in a great measure, defeated. For the Norfolk sorts, and green top turnip, 80 loads of burnt soil, without dung, broadcast, will be sufficient, which should be very lightly ploughed into the land, and the seed afterwards harrowed in. I prefer sowing those latter sorts, when with ashes only, broadcast; but, with the addition of dung, drills are preferable—and when with the former manure, the sowing may be postponed 10 days, or a fortnight, later in the season, with equal prospect of success. I have grown some fine crops of Swedes, on my farm here, this year, by mixing burnt soil and dung together in April, and putting it out in June for this crop. Half of several drills were manured with dairy dung alone, and that liberally; but no difference can be perceived in the goodness of the plants, in these two parts of the field. The dairy dung cost me at the rate of 16/ an acre; but the burnt clay, with the dung mixed, say one-fourth of the latter, about 7/ an acre. I have sown four acres of the red and white Norfolk turnip, on strong land, dressed with soil thus prepared, and the plants promise well, although the season is much against their bulbing freely. However, on five or six perches, sown with the same dressing, a fortnight earlier, the bulbs are large, and the tops most luxuriant. I have, also, cultivated different sorts of potatoes this year, with this manure, and have every reason to be satisfied with the crops. In recommending soil thus prepared, as a fertilizer of the land, I do not mean to assert that it can be applied as frequently as dung, with equal benefit; but that, as an alternative, and an occasional stimulant, it is a most useful preparation. Neither is it my intention to advocate the principle of paring and burning, except in particular cases, where aquatic roots and noxious grasses, cannot be otherwise exterminated. I think it necessary to make this observation, in order to point out the great difference between the two modes of improving land—burnt soil being chiefly beneficial in its application on exhausted land; while paring and burning can be only advantageously adopted on heaths, moors, or deep land, containing a superabundance of vegetable matter. It has been asserted that burnt soil will not produce good corn crops; but this I have often proved to be otherwise, from practical knowledge. I know it may happen that if too great a stimulus is applied to land, white crops will run to straw, and not be productive; and this is especially the case if the ashes are produced from the decomposition of vegetable matter by fire; consequently, when an old ley is burned, this is often the case. Such a preparation will, however, produce excellent green crops, but the ashes must be applied with much judgment, in the production of those intended to ripen their seeds. In gardens, many years manured with dung, burnt soil will be found highly advantageous and economical; and green weeds converted into ashes, by a small fire of wood or turf, is the manure possible for raising small seeds.—*Correspondent of the Irish Farmer's Magazine.*

CHARLBURY LOAN FUND.

At the First Annual Meeting of the Subscribers to the Charlbury Loan Fund,

Wm. ALBINGUR, in the Chair,

The Managers presented a very favourable Report, of which it was resolved to request the insertion of the following summary in the *Mark Lane Express* and county papers.

Established on the 1st January, 1836, the period when the new poor-law was superseding the abused provisions under which parochial aid had been until then administered, this institution opportunely held out a helping hand to some whose large families and pauperized habits led them to regard the new poor law as excessively stringent in its operations. To some of these thus suddenly thrown on their own resources, the aid thus afforded appears to have been the means of enabling them to commence a new and improved career, in which their industry has been turned to a profitable account in many little schemes to which necessity and ingenuity led them to resort. To others not so pinched by poverty the fund appears to have been of essential service by enabling them to purchase in larger quantities and at a better rate than, unaided by such means, they could have done, various articles of food, fuel, and clothing; materials for handicraft trades, as timber, leather, nails, tools, flour, &c. Pigs and seed corn are among the most frequently recurring objects of expenditure. It is very satisfactory to be able to state that while very few applicants (coming within the intent of the society's operations, and complying with its essential requisition of providing themselves with a security or securities,) have been refused, that in this poor district the fund has not hitherto sustained the slightest loss. The managers hope that other places induced by their example, and encouraged by their successful experience may form similar societies.

Any individual who could devote on the average about two hours or one evening in the week might perform all the business of secretary and treasurer, or it is even possible that the ticket money and fines paid by the borrowers at receiving the loan, and in default of punctuality in the repayment might be enough to pay all expenses, and also to remunerate a sufficiently qualified secretary, who in many places might be the school-master of the British and Foreign or National Schools and the office of treasurer might then be filled by some other person. With a capital fund of 58l 10s raised by loans without interest, the managers have lent 224l 10s, in 122 loans, to 64 borrowers, of whom

- 1 has borrowed four times
- 17 three times
- 17 twice, and
- 33 including the recent borrowers, have had one loan

— 68 borrowers.

The following is the division of the loans as regards the amounts:—

	£	s.	d.
1 loan of.....	0	5	0
13 loans	£0	10	0
1 loan	0	15	0
32 loans	£1	0	0
12 ditto	1	10	0
28 ditto	2	0	0
10 ditto	2	10	0
14 ditto	3	0	0
11 ditto	4	0	0

Total sum lent..... £224 10 0

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR—In consequence of the disappointment which your correspondent "An Old Farmer," experienced in the trial of a small quantity of my Swedish tur-

nip seed, it has been the means of bringing into your columns some valuable observations on the ravages of the turnip fly, and the effects likely to arise from sowing seed in a colder climate than it has been raised in. It has also induced you to copy from the Entomological Magazine, a detail of experiments made, to endeavour to find out where the fly is generated. Such subjects must be somewhat amusing to the generality of persons residing in the country, but to such as are engaged in farming, they are also useful. I should like to see your columns as much occupied as those of the Farmer's Journal were five and twenty years ago, by original correspondence; such communications would be beneficial to the farming interest. At that time I lent my aid, and was a frequent contributor, under different signatures; where I ten years younger, I would willingly lend my feeble aid in promoting correspondences in your paper; but my public writing, on any subject, ends with the ending of my book on Practical Farming and Grazing. Few men have given themselves more trouble than I have, in endeavouring to find out where the turnip fly is generated, but have not been able to come to any satisfactory conclusions. I have, however, discovered, and practised for eight or ten years, without once failing, a preventive against its ravages; numerous crops were last year devoured by it—mine by my process entirely escaped; there was not a turnip wanting.* My plan is in the first edition of my Summary of practical Farming, which came out in February last; from which I think you, last summer gave in your columns an extract on this subject. In the second edition, which, by permission, is dedicated to Earl Spencer, I was promised should be out of the press near two months since, are observations on Mr. Lefevre's letter to his constituents of North Hampshire, on the Poor law Amendment Act, recommendations of relief to be afforded to able bodied labourers who might be thrown out of employ by the setting in of a long frost, on the maintenance and employment of the rural population, and what was said to be much wanted, to create a good understanding between landlords and tenants—a fluctuating plan of rent, depending on the price of corn, finishing with observations on an assertion I have often heard, "that farming is yet in its infancy." The delay of these observations not coming out is somewhat mortifying to me, as it is possible that from the numberless remarks that have been made on agricultural subjects at the various meetings that have lately been held, it may appear to some, that I have borrowed from other men's thoughts. Fearing that I may have run this out to a length inconvenient to put into your columns, and to your readers, and begging you to excuse the haste and off-hand manner in which it is written—I remain, yours,

C. HILLYARD.

President of the Northamptonshire Farming and Grazing Society.

Thorpelands, near Northampton,
Jan. 4, 1837.

* I raise more seed than I want for my own use, because being obliged to be at the expence of having the birds kept from the crop for eight weeks, it would make the cost of a small quantity of seed come high. The Thorpelands turnips are now pretty well known in a great many counties, from my having for several years past given at the dinner table of our society's annual meeting, bags of it, of the size just to fit a coat pocket, to those persons not of our county, who have attended our meeting.

TO THE EDITOR OF THE TAUNTON COURIER.

Sir,—The dilapidated state of the Apple and Pear Trees in the orchards around this neighbourhood, is an object of astonishment, and how to account for this, is entirely through injudicious management. This being a good time for preparing the land for planting, has induced me to lay before your readers a method of planting and managing an orchard which I have seen practised with great success.

I will ere long transmit you a paper on the best method of renovating those standard trees which are so much infested with moss and lichen. But I would recommend that half of the old trees be taken up, and the land properly prepared and planted with young trees in the following manner, and as soon as these have got into a bearing state, remove the other half, and proceed to trench and plant.

During the last Autumn, I visited a fruit garden, (the Earl of Egremont's, Petworth, Sussex,) where I observed Apple and Pear Trees treated in a manner which perfectly agrees with the system I recommend; the trees at the time were loaded with fruit, and of a superior size. The very neat and unique method of forming and pruning the trees is the admiration of all who see them. The trees were planted in rows alternately, at the distance of about four yards from each other, the apple trees being kept to themselves, as also the pears: the latter were planted in the warmest situations. The soil of the garden is a strong rich loam, and has been drained by having the whole turned over, and several inches deep of broken stones, lime, rubbish, &c. has been laid at the bottom. The soil is about two feet deep.

The trees were all grafted on Paradise Stocks, or the stocks of the small wild crab. The trees are selected, having stems about half a yard high; they are procured when maiden plants, that is, without any side branches, and if strong enough, one year from the time of being grafted. The top of the shoot is cut off at the height of two feet, and the four uppermost and best placed shoots are encouraged, all others rubbed off. As the shoots put forth, they are tied to small stakes placed at equal distances. At the end of the season the four shoots are secured to stakes set about three feet apart, the stakes leaning outwards. If the shoots be so long as to reach half a yard up the supporter, the top is cut off to cause the production of lateral shoots; if not, it is allowed to go unmoleted till the next winter pruning.

As the laterals are produced, two are trained up from the lowest part of the first, or original branches; they are trained erect, and topped at the winter pruning.

The main and lateral branches are trained up to the height of four feet, and the inside of the bush (for so it may properly be termed, being about the size of a good currant bush) is kept open.

The trees are summer pruned in July and September, by cutting in the young shoots to about an inch from their origin. This throws the strength of the tree into the fruit, and produces fruitful buds upon the branches or spurs.

The trees are thus brought into a desirable shape in a most ready manner. The effect of this method and treatment upon the trees is quite astonishing; the abundant crops of fine fruit being almost beyond credibility.

There are several things in this mode of treatment which are well deserving of notice—the surface of the soil is kept clean from weeds—lucern is cultivated between the rows of the trees. This method is much better than allowing grass to grow over the whole surface, which is the principal reason of the trees being in the present unhealthy state.

Not only will the pruning as above described, have a tendency to promote fruitfulness, but from the circumstance of the whole bush being kept near the ground, the warmth of the atmosphere being greater there than at a much more elevated space, the buds and fruit are both materially benefited by it. The circumstance of keeping the centre of the bush open, also contributes to the same effect.

The dwarfness of the same affords facilities to gathering the produce of fruit, also in pruning, and in keeping the trees clean from insects.

I am fully persuaded that an acre of land planted and treated in the above manner will produce double the weight of fruit and much better in quality, than an acre planted and treated in the ordinary manner as standards.

I am, Sir, your obedient servant,

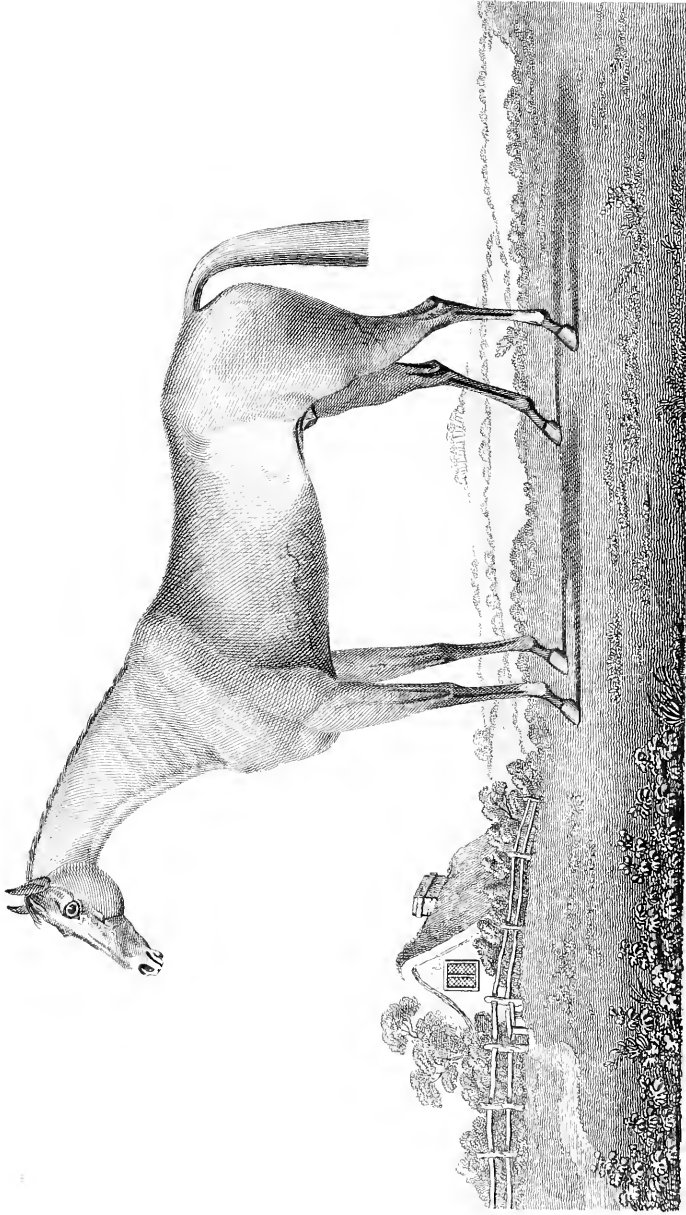
GEORGE HARRISON.

Bridge Nursery, Taunton, January 6th, 1837.

CHARCOAL AS A MATERIAL FOR DRAINING.—Brushwood, broom, gorse, heath, and thinnings of young plantations after they have been charred, may be employed in filling drains, being lighter, more porous, and hardly susceptible of decay. All known facts and analogies are strongly in favour of this suggestion. The charring may be performed in the usual way by the side of the drains, the brushwood, &c. being made up into faggots of a suitable size previous to charring; and each faggot, if necessary, may be secured by a single band of iron wire near each end to prevent it from falling to pieces in removing from the hearth to the drain: a light cradle of wicker-work, of the length of a faggot, would probably be found the most convenient machine for its conveyance. It is, however, not at all unlikely that there would be no real necessity to preserve the faggots entire; for it is evident that a heap of sprays of charcoal, broken into pieces two or three inches long, and without any regularity in their arrangement, would form a more porous material than an equal bulk of stones. A drain so filled would never be choked except by particles of earth carried in by the water that flowed through it; for, as the material would always remain, the superincumbent earth would not fall down, as it now usually does, to choke the passage, when the bushes which supported it have decayed. Neither is it likely that Moles would willingly cross a drain filled with charcoal; and if so, another very usual cause of the destruction of drains would be avoided. In many districts where Peat is abundant, this substance when charred, would probably be found a most valuable material, both for filling drains, and for building hollow ones. The brick-like form into which Peat is usually cut, and the hardness and porosity of the same when charred in a close oven, would constitute a light and excellent material, much cheaper, and probably better than either bricks or tiles.—*Chester Gazette*.

POPULATION.—Analysis of occupations in which the population of Great Britain were employed in the years 1821 and 1831. Also the number of families in each occupation in the same years, and the total population in 1831.

	Total number of families in 1821.	Total number of families in 1831.	Total number of persons, 1831.
1. Agricultural occupiers.	2500 0	250000	1500000
2. Agricultural labourers.	7 8956	800000	4 00007
3. Mining labourers	11 600	1200 0	600000
4. Millers, bakers, butchers	160000	180000	1 00000
5. Artificers, builders, &c.	200000	230000	650000
6. Manufacturers	310 00	400000	2 100000
7. Tailors, shoemakers, hatters	150000	180000	1 000000
8. Shopkeepers	316239	350000	2 100000
9. Seamen and soldiers	319 00	277017	831000
10. Clerical, legal, and medical	8 000	90000	45 0000
11. Disabled paupers . . . . .	..	..	110000
12. Proprietors, annuitants	192 88	316487	1 116398
Total	2911353	3303504	16537398



Engraved by A. S. W. Walker.

H O R N S E A ,

Winner of the Goodwood Cup 1836.

London, Published by Colburn & Co. 1837.

HORNSEA.

(Plate.)

The plate prefixed is a portrait of the chesnut colt, Hornsea, by Velocipede, out of Lady De Gros' dam by Cerberus.

Hornsea is the property of the Earl of Chesterfield: but before he came into his Lordship's possession, he belonged to Mr. Richardson, in whose name he came out on Wednesday, June 17, 1835, at Newcastle, and won the St. Leger Stakes of 25 sovs each, with 100 sovs added (9 subs.) beating Mr. Dundas's Weldare, Mr. Jacques's Burletta, Sir J. Boswell's Rosina, Lord Eglinton's Butterfly, and Mr. Metcalf's Miss Frill. On the following day, at the same place, he was beaten by the Duke of Cleveland's Muley Moloch, for the Cup.

On Wednesday, August 5, 1835, at York, Hornsea won his Majesty's Purse of 100 guineas, beating the Duke of Leeds' Zohrab, Mr. Wilson's Winkley, and Mr. Marson's Caroline.

Hornsea came out on the 15th of the following month (September) at Doncaster, for the Great St. Leger, and ran second to that extraordinary filly, Queen of Trumps. And on the next day but one, he again came to the post at the same place, for the Cup; when he ran second to the Marquis of Westminster's Touchstone, General Chasse third.

On the 29th of July, 1836, he came out for the Goodwood Cup, which he won very cleverly, beating Elis, Bamfylde, Lucifer, Rupert, Sepoy, Rockingham, Alfred, Esmeralda, and Khytan. This is a prize of more than ordinary value, as will be perceived by the following conditions:—"The Goodwood Cup, value 300 sovs, the rest in specie by subscriptions of 20 sovs each, with 100 added by the Racing Fund. The owner of the second horse to receive 100 sovs out of the Stakes: 40 subscribers.

On Wednesday, August 24, 1836, Hornsea won the Surrey and Middlesex Stakes at Egham, beating Valentissimo, Pussy, and Paris. On the following day he came out, and won the King's Hundred.

MANAGEMENT, &c. OF THE HORSE.

SHOEING.

Nature never intended that the foot of the horse should be bound with a rim of iron; but as this beautiful quadruped has been taken from his native wilds, reduced to subjection by man, compelled to receive education and has become, in fact, a semi-domestic; so, it may be remarked, that this change from the state of pristine nature to an artificial system of existence, necessarily introduced artificial accompaniments—hence, the horse-shoe.

In some countries, where the horse is rendered as domestic as possible, (as in Arabia for instance) shoes are not used; but if these horses were brought to this country, our hard paved roads would render the shoe indispensable. Therefore, since shoes are absolutely requisite where the roads are hard, the object of consideration is, to ascertain, if possible,

that form of shoe best calculated for the purpose, and the most correct mode of applying it to the foot:—no very easy task, certainly. Various alterations have at times, been made in the form of the shoe, which have been called *improvements* by the inventors, and which have acquired strenuous advocates; whose utmost exertions, however, were unable to support their evanescent pretensions; they have been laid aside for the most part, if not altogether forgotten. Yet, it must be admitted, that if the form of the shoe has experienced no very great or striking alteration of late years, the mode of applying it to the foot is much improved.

Without, therefore, entering into a detailed account of the various alterations of the horse-shoe, I shall notice the general principles of shoeing, leaving particular cases to the reflection and good sense of the groom and the shoeing smith.

I would lay it down as a general rule, in applying the shoe, to pare the foot as little as possible, from which, however, deviations must occur:—as, for instance, where the foot is deep and the sole hollow, the crust is generally thick and strong, and will, of course, allow of more paring than a broad thin foot. But no absolute rule can be laid down, as to how far this paring is to be carried; each foot should be treated according to its degree of strength, weakness, brittleness, &c.

As in the action of the horse, the *frog* was intended by nature to touch the ground, if it be disabled by too much paring from doing this—if it thus be deprived of its natural action, the tendon becomes elongated, lameness perhaps produced, and not unfrequently windgalls.

The *bars* should not be scooped out, as is too commonly the practise among smiths; because, in conjunction with the frog, they are intended to keep open and defend the hinder part of the foot.

Diseases of the feet are frequently caused by improper shoeing, as many of the modern smiths treat all kinds of feet in the same manner, and will frequently remove more from a weak footed horse than nature can re-supply for some months, when lameness can scarcely fail to follow. If a strong footed horse, with a narrow and contracted heel, be placed in the hands of one of these men, under the pretence of giving the horse ease, the bar is scooped out, the frog pared, and the sole drawn as thin as possible:—a kind of treatment calculated to produce lameness, or confirm it if previously contracted.

Generally speaking, the shoe should stand wider at the points of the heel than the foot itself; or, as the foot grows, the heel of the shoe becomes imbedded in the foot of the horse, which will be likely to break the crust, produce lameness or a corn. The foot should be kept short at the toe; as if left too long, it becomes thin and weak, and the heels low, whereby the flex or tendons of the leg are strained; whilst a short toe has a tendency to strengthen the foot, and also to keep the heels open and expansive.

In shoeing a thin footed horse, when the toe is cut short, it is advisable to leave it nearly square, merely rounding off the angles with the rasp. No nails should be driven into the hoof more forward than these angles, even in the strongest feet, nor

yet so far in general ; and by this method, the nourishment that would proceed to the support of the toe descends to the heels, and tends to keep them open. This, however, applies more to the hinder than the fore feet, because the horn is always thicker at the toe before than behind ; while the quarters are even thicker of horn behind than before, by reason of the wearing of the toe being greater behind than before. The heel of the shoe, on strong and narrow-heeled horses, should be made straight at the extreme points ; the form of the shoe thus assisting in the distension of the heels of the horse.

Horses which turn out their toes are apt to *cut* ; and on examination this will be found to arise from the inside heel being lower than the outside heel, which may be remedied by paring down the outside heel if the foot will allow ; however, as the heel will seldom allow this sufficiently, the shoe may be made thicker on the inside of the foot, from the heel to the toe, than it is on the outside, taking care that the inner heel of the shoe does not project too much.

Hitherto the observations on shoeing have been general. I now come to the exception :—*horses must be shod short for hunting*. If the hunter's fore shoes be not short, he will pull them off with his hind feet in jumping, and perhaps lame himself also. His hind shoes should be rounded or bevelled at the toe to prevent any seriously ill effect which would otherwise arise from an over-reach.

INSTRUCTIONS FOR THE CHOICE AND PURCHASE OF A HORSE.

When a horse is exhibited for sale, or placed before a purchaser, the *colour* of the animal first meets the eye of the inquisitor ; and although I am well aware of the truth of the old adage, that *a good horse cannot be of a bad colour*, yet I cannot help entertaining the opinion that the colour frequently indicates the quality of the horse's constitution and temperament. I readily admit that there are good horses of all colours ; and what I allude to, as indicative of the quality of the horse, is not the peculiar colour, but the manner in which it is defined :—thus, whatever the colour may be, whether grey, brown, or chesnut, if it be strong and very distinctly marked, I think it indicates a good constitution. If, on the contrary, it be faint, or almost evanescent, (if such an expression may be allowed) I have generally found the constitution of the horse to correspond,—to be weak, feeble, and liable to disease. And, if we reason upon this subject, the principle or hypothesis will be found perfectly consistent with the acknowledged laws of natural philosophy, and the rules of physiological science : since the weakness of the colour arises from the corresponding weakness of the constitution of the animal, and may be consequently very justly regarded as an indication of the quality of the horse.

The principal colours of the horse are, the bay, the black, the chesnut, the sorrel, the brown, and the grey.

The *bays* are found of a variety of shades, the most beautiful of which, however, is the bright bay, mane and tail black, and black legs.

Dark bays have generally their knees and pasterns black ; and there are several sorts of bays that have black legs from the knees downwards. Bay I consider as one of the best colours.

Black I regard as one of the worst colours. It is true, when you meet with a horse of a shining jet black, he looks beautiful ; but in general black horses are coarse in their coats, a strong indication of inferiority of blood. There are few black Arabian horses. We do not often observe a black race-horse ; and those that occasionally make their appearance seldom distinguish themselves. I have had two black hunters, both Irish horses, and both excellent jumpers ; but evidently deficient in blood, and on that account, a capital run distressed them very much : it is a fact, that when you take a *pinch* too much out of an inferior bred horse, he does not come round again half so soon as a thorough-bred. Nothing like blood—it will beat every thing else. Some black horses have brown muzzles, and are brown on their flanks : these are called black browns : some are of a lighter colour near their muzzles, and are called mealy-mouthed horses ; and of this sort are the pigeon-eyed horses, which have a white circle round their eyelids. Those black horses that partake of the brown will be generally found the best.

The true *Chesnut* is of one colour, without any shade or gradation, while the hair of others will be found of three colours, the roots light, the middle dark, and the points of a pale brown. Many chesnut horses have their manes and tails nearly the colour of their bodies. Chesnut horses are of various shades or degrees ; some are very beautiful ; but I have seldom seen a dark chesnut that pleased me. Some chesnuts have white faces ; others have flaxen manes and tails : the latter are anything rather than pleasing in my sight.

The *Sorrel* approaches the chesnut ; and differs principally in this, that the colours of the hair are not so distinctly marked as in the chesnut. The hairs of the sorrel are of several colours intermixed, in which the red, or fox colour, is predominant. Sorrels have generally much white about their legs, with a large blaze on the face, perhaps some bald all over the face.

Brown is a colour by no means so beautiful as either the bay or the chesnut. It also has its degrees or shades, some horses being dark, and others light. Brown horses have generally black manes and tails, and also black joints ; but they become gradually lighter towards their bellies and flanks, and many are light about their muzzles. A dark dappled brown is beautiful, but not often seen. I once possessed a light dappled brown horse, his colour was faint ; and he, like all horses whose coats are not strongly marked, which have fallen under my notice, possessed a delicate constitution, was a bad feeder, and incapable of enduring fatigue.

The *Greys* are very much diversified in colour. The dappled greys are very handsome, and so indeed are the silver greys. The iron greys are reckoned hardy. The light plain grey, and the pigeon-coloured grey soon become white ; as indeed all greys do in process of time, the dark dappled grey and the iron grey keeping their colour longer than any of the rest. The nutmeg greys are

handsome; and the flea-bitten greys are not without their admirers. I have had at various periods several very good greys. The best hunter I ever rode, was a flea-bitten grey mare.

The *Roans* are a mixture of various colours, wherein the white predominates; they have a general resemblance to each other, and yet are much diversified. Those that have a mixture of the bay or nutmeg colour are the handsomest.

The *Strawberry* resembles the roan; and, like the sorrel, is frequently accompanied with white on the face and legs.

The *Fallow*, the *Dun*, and the *Cream colour*, have a common resemblance. There are many other colours of the horse produced out of the great diversity that are to be met with, which would require endless description, and after all would amount to nothing.

Black legs are preferred to white; the latter being supposed more subject to disease. A correspondence will generally be found between the face and the legs in regard to white:—where there happens to be much white on the legs, white will be found to predominate on the face also.

THE HORSE CONSIDERED AS TO HIS FORM.

Although as far as regards the elegant quadruped under consideration, the term beauty might be abstractedly applied, yet a trifling investigation of the subject will clearly shew that its general principles are not only applicable to, but strikingly exemplified in, the form of the horse.

If we compare the horse and the cow, we instantly perceive how much more beautiful the former appears, more graceful and more interesting to the eye; and the mind, in consequence, is impressed with more pleasing sensations. Whence, it may be asked, does this arise? From the superiority of the form of the one compared with that of the other. Very true; but such an answer is very unsatisfactory to an inquiring mind; and it requires a more tangible, a more specific, and a more conclusive reason before the subject is placed in a state of satisfactory and unqualified conviction.

Regarding beauty of form, therefore, on the broad and general principle, we shall find that any animated or inanimate form or thing presents a pleasing appearance precisely in proportion to its possession of what is understood among painters by the appellation of the *line of beauty*: it may be more plainly described as a serpentine line, which may be traced by the eye upon all beautiful animals, and which some of them present in great, if not endless variety. It will easily be perceived that the form of the horse exhibits the serpentine, or gently bending line in considerable variety; while in the cow it can scarcely be traced; and therefore the former is justly regarded as more beautiful in form than the other. If two horses are placed before the spectator, the one presenting an ewe neck, and the other with a well raised crest, can any person hesitate for one moment to pronounce which is the more beautiful? The ewe neck may be said to form the reverse of the line of beauty, and is therefore less pleasing to contemplate than the other, where the gently bending or serpentine line is ob-

viously and boldly defined. The most beautiful horses exhibit the line in question very prominently, and in great variety; while in the more ordinary forms it is much less distinguishable, and in some can scarcely be traced. Hence, therefore, I should denominate this system of reasoning upon forms, the *philosophy of beauty*. The figure of the cow, as well as the figure of many other animals, instead of the true serpentine line, presents it ill-defined, as well as blunt or obtuse angles; appearances which may be regarded in a similar light to discords in music: they afford an opportunity of judging, of forming a decided and conclusive opinion; nor could we understand half so well, nor appreciate half so highly, the beauty of fine forms, but for the contrast.

Handsome horses will be found to differ in form, which merely amounts to this, that beauty is not confined, but presents itself in great variety. Horses will be found with a great decline or slope of the shoulder, powerful quarters, so far set in as scarcely to leave room for the saddle between them: such horses will frequently appear long upon the leg. Others will present a greater length of carcass and shorter legs. And, although horses exhibit one general appearance, yet if we are to descend to minute particulars, the ramifications of form would become infinite. It must be admitted, however, that there is a standard of form, which, though presenting trifling variations, is nevertheless superior to every other; and if I were asked to point out one of the finest figures of a horse (if not the very finest) that ever came before me, I should instance *Lottery*. This horse was bred by Mr. Watt, of Bishop Burton, Yorkshire, and was originally called *Tinker*. His running could never be depended on, owing to his vicious temper, and hence his name was changed to *Lottery*. His powers as a racer, I am of opinion, were superior to those of any other horse that ever appeared upon the turf; but his running was always rendered doubtful, owing to his temper.

Speed may be regarded as expressive of *strength*, since all animals remarkable for swiftness of progressive motion, are equally so for that tendentious or sinewy development which constitutes the basis of extraordinary force. Nor can it be otherwise; for, if we reason by comparison, great speed can alone be acquired from great strength. Of all animals, there is none which exhibits so striking an exemplification of what has been just stated as the *hare*. This animal is remarkable for great declination of shoulder, for depth of chest, for breadth of loins, for widely-spread, strong quarters, and length of hind legs; a conformation which gives her greater speed than any other quadruped in creation! We must speak by comparison; and when the size of the hare is taken into consideration, she far outstrips all competition. It is true, there may be found greyhounds a trifle fleetier than the hare; but, then, they are three or four times larger, or more. And if we regard the greyhound, we shall find that he possesses the low-dropping chest, and a form similar to the hare, but not in such great and even amazing perfection. The same observations are applicable to the antelope, the deer, indeed to all swift quadrupeds; and if we are anxious for speed in the horse, in selecting

him, let us not forget the form just described; which, it is evident, produces the greatest speed, and the greatest strength also; the hare being the strongest, as well as the swiftest, of all quadrupeds.

A horse intended for hunting should be strong and well bred, (if thorough-bred so much the better); his shoulders should be well sloped: his chest low; his arms long and powerful, short from the knee to the ground; his carcase or barrel round, deep-ribbed, strong loins, and widely-spread powerful quarters; low-dropping strong thighs; if his sinews or tendons be large, strong, and well-defined, he can scarcely fail to have sufficient bone.

Such a form, it may justly be said, cannot fail for any purpose; hackneys or roadsters, however, are preferred which exhibit more of the cob figure, inasmuch as they are supposed to be capable of enduring more fatigue; but the notion is erroneous; the form for strength and speed being completely mechanical, it follows, as a matter of course, that the nicest and the most complete adjustment of the parts cannot fail to produce the strongest, the fleetest, and the most perfect action; which consequently will continue to operate for the greatest length of time.

In the purchase of a horse, an inspection becomes necessary; and if the purchaser does not possess some knowledge of the business, I would strongly advise him to have recourse to the advice of a friend. Considerable practical experience is indispensably necessary before a good judgment can be given of a horse. Horse dealing in the hands of many unprincipled vagabonds, in various parts of the country, is a regularly organized system of swindling and robbery.

In preference to having the horse brought out of the stable, in the first instance, I would examine him in the stable. Let the groom stand at his head. Look at or into his eyes. If the pupil be considerably distended, and on coming to the light contracts and looks clear, so that you can see into it, or your own shadow reflected, the sight is good. There is a disease of the eyes called *gutta serena*, which causes blindness, yet the eyes look clear. In fact, when the horse is afflicted with *gutta serena*, his eyes assume one clear glassy appearance; the pupil being much dilated, without the power of contraction. This may deceive an indifferent judge, or an inexperienced person; but on a close and judicious inspection, this clearness will be found a vacant stare, in which the eye seems immovable; and it is probable that in some of these cases the animal is not totally blind, though quite incapable of distinguishing objects. Cases of trifling cataract are not easily perceived unless by an old practitioner. Pass your hands down his fore legs, by which you will ascertain if there be any splents upon them, or puffiness, or windgalls about the lower part of them; and that the back tendon is strong and well defined, allowing you to feel your thumb and finger between it and the bone. Take up his foot to see that it is well formed, the heels open and the wall thick, strong, and upright. Cast your eye down his back, by which you will be enabled to observe his loins; then let him be brought out. Stop him as his about to leave the stable, just as his head is protruded, so that the

light falls into the eyes: you will thus observe if the pupil contracts, as also if the eye is clear and transparent. When the horse is completely out of the stable, let the groom hold him quite still, that you may have a deliberate view or survey of his form; that you may see if his head be handsome, and well set on; that is, not boring out, but dropping handsomely from his neck. You will also observe the form of his neck and withers; that the former is well formed and comes handsomely from the body; the latter properly raised. His carcase round; his chest deep and broad; his arms powerful and long; leg short from the knee; knees not broken; fetlock not too much bent. Observe his quarters; wide-spreading; thighs muscular and low; filets broad; his hocks free from capulet (capped hock) curbs or blemish; his hind legs free from spavins, windgalls, or other diseases or blemishes; clear and free from gumminess. Then see him move or go. If his action be quick, distinct, and good, mount him; ride him a mile or two, and if you become satisfied that the horse will answer your purpose, purchase him if the price happen to suit. Riding him a mile or two will enable you to ascertain if he be affected with piping, whistling, roaring, broken wind, &c.

I have yet said nothing respecting his age. I prefer purchasing a horse seven or eight years old to one younger, unless I know in what manner he has been treated from early life. If he has been subjected to severe labour or harsh treatment, or both, he is thus rendered much more susceptible of disease; and although a horse may exhibit every appearance of soundness at four or five years old, if he has been used in the manner just mentioned—if he has been unreasonably and unnaturally strained by exertion at so early a period, the ill-effects of such treatment will be very likely to show themselves—in splents, in curbs, in spavins, founder, roaring, broken wind, &c. And on this account the greater part of the Irish horses are to be regarded with suspicion: few of them are without blemish. If, on the contrary, a horse has been well and kindly treated from early life, he may be purchased at the age of four or five without any extraordinary risk. When, however, a horse has reached eight years old, free from any serious disease or blemish, is less liable to splents, curbs, spavins, roaring, &c., than he was before he had attained maturity; he will also have acquired a knowledge of his business. The age of a horse may be ascertained by the appearance of his teeth until he reaches his sixth or seventh year, and those who practise it will be able to form a satisfactory opinion for some years afterwards. As the horse becomes older, his teeth increase in length; and various tricks are played to alter their appearance to suit the sinister views of designing horse dealers, none of which, however, can deceive a well experienced eye.

When a horse becomes very old, it may be ascertained that he is so by his skin becoming less elastic to the touch, however good his condition may be. Also if you feel the joints of his tail, a space between each will be plainly perceptible, if the horse be very old; whereas in a young horse the joints can scarcely be felt; and an opinion may thus be formed of the animal's age according to

the closeness or otherwise of these joints or separations.

The hollowness above the eye is no absolute criterion of the age of the horse, as it is found in many horses at an early period of life.

Horse dealers resort to various stratagems for the purpose of furthering their views. If a horse be lame on one foot they will lame the other, in order to prevent the lameness being observed; and by the administration of fat bacon, they can prevent the noise emitted by the roarer for some hours. Figging is a disgusting practice, and wherever you observe a horse dealer make use of it and keep the animal prancing or in motion by the application of the whip, you may reasonably suspect deception. Horse dealers of character never resort to such practices; but amongst all the lower grades of this suspicious profession, nothing is more common.

Amongst other tricks resorted to by swindling horse dealers is that of *Bishoping*, an operation performed on the mouths of horses, with a view of making them appear young when the natural marks have become obliterated.

The front teeth in young horses meet exactly in a line perpendicularly to each other. As the horse grows older these teeth assume a more horizontal direction, the upper teeth projecting very considerably over the lower; at the same time the upper corner tooth forms a curve over the lower corner tooth. He therefore forms an artificial cavity in the head of the corner teeth with an engraving tool, and by burning it with a hot iron gives it a black appearance, quite sufficient to deceive an inexperienced person, but which is easily detected by those who understand the business; for, although the dealer may make these marks in the corner teeth, he cannot alter their horizontal direction, nor restore them to that perpendicular approximation so remarkable at an early period of life. Neither can he re-produce the ridges of the roof of the mouth, nor furnish the teeth with their original concavity. But as it suits the dealer at times to make an old horse appear young, so, at others, he is anxious to make a young horse appear somewhat older. It is very well known that a horse is more saleable at five years old than at four, and therefore the dealer attempts to produce the mark of an additional year, by drawing the corner teeth before the natural period of their dropping out. The bars of the mouth are also cut, to let the tushes protrude prematurely. But all this is insufficient to deceive the eye of experience, though the cheat may succeed with others; for, although the corner teeth are removed, and the appearance of the tushes accelerated, yet the animal has not attained his fifth year till the corner teeth, both of the upper and lower jaw, are complete, and the marks of the middle teeth begin to fill up. The tushes also should rise considerably above the jaw.

It is difficult to ascertain the precise age of crib-biters, and horses whose teeth are extremely hard: the former lose the marks of their teeth before the usual period, the latter retain them long after seven years. In examining a horse's mouth, it is advisable to observe both sides of it, as a considerable difference frequently occurs from the

mastication of the food being performed on one side of the mouth only; in which case, the teeth on that side will have made the greater progress in alteration.

As a horse becomes old, grey hairs appear on the forehead, and the lower part of the mouth; the lips present a lean and shrivelled appearance, the lower lip hanging considerably below the upper lip. The ears also droop latterly.

BRIDLES, SADDLES, &c.

The principal part of the bridle which demands notice in this place is the bit, which varies in form, but which only forms two complete divisions, which are generally designated the snaffle and the curb. Bits have at various times undergone alteration, and hence have received the appellation of the Pelham bit, the Pembroke bit, the Weymouth bit, the Hard and Sharp, the Portsmouth, the Chifney, the Cannon, &c.

Strictly speaking there are but two kinds of bits; yet, such is their construction, that mildness or severity may be produced in their operation. The mildest is the colt's bit, which is made large and smooth in that part which compresses the lip against the bars; the larger the mouthpiece of the bit the milder its operation; and the colt's bit is rendered still milder by the centre of the mouth piece being united with a ring, by which the pressure becomes less severe. There is usually to a colt's bit a flat triangular piece of iron fixed to the ring, and three or four drops suspended from it, for the purpose of stimulating the tongue to move, by which means the mouth is kept cool and refreshed; if the mouth is suffered to become dry and hot, numbness and insensibility ensues. The cheeks to this bit, and indeed to all snaffles, should be six inches long; and the eye (to which the head stall and reins are affixed) sufficiently large to admit of strong reins working freely.

The common plain snaffle, the mouth piece of which is generally about the thickness of one's finger, is so well known as scarcely to require a description. Some variation in the power of this bit may be produced by the length and thinness of the mouth piece, which renders it sharper; when thick and short it is mild. A twisted snaffle is more severe than a smooth snaffle; and the deeper and thinner the twist, the sharper the operation becomes.

The bridoon is a snaffle without the cheek piece, and is only used with another bit, where cheek pieces would be an incumbrance. The bit should be placed in the horse's mouth, so as not to wrinkle the corners, or otherwise cause pain to the animal: it cannot be placed too low as long as the horse cannot get it over his tushes.

What, strictly speaking, is called the bit, may be thus divided, the mouth-piece, curb, curb-hook, chain cheeks, and branches. The mouth-piece is the part which is placed in the mouth of the horse, the length of which is usually about five inches and round, the ends of which should rest on the bars of the mouth, and the middle form a cavity in which the tongue may lie easy. The cheeks are the parts above the mouth-piece on each side the jaw; the branches are the lower parts, upon which the power of the bit mainly depends, its

power increasing according to the length of them. The curb chain is constructed so as to lie smooth and flat under the jaw.

The bridge of the mouth-piece, I would not recommend to be high, as, if so, the horse must be rendered uncomfortable. The Portsmouth bits were invented for the purpose of forcing the horse's jaws open, by which it was supposed a run-away horse was more easily held.

The bit and bridoon are generally used together, and form what may be called the double bridle.

The *Saddle*.—This instrument may be considered equally as convenient to the horse as it is to his rider: it enables the former to carry his burden with ease and comfort to himself, while it renders the seat of the latter secure, easy, and pleasant.

The fitting of the saddle contributes greatly to the ease of both the horse and his rider; and for a saddle to fit well, the bearing should be equal where it is intended it should touch; and the closer it comes down, so that neither the weight of the rider, nor the settling of the pannel, can bring it to injure the withers or chine, the better.

Cruppers have, generally speaking, been laid aside, and very properly so, except in breaking, where they are necessary: breast-plates are rendered necessary in hunting, as well as on the course. Deep chested horses, in high condition, require breast-plates, particularly in climbing hills.

The *Stirrup*.—I shall merely remark in this place, that the spring or drop-stirrup renders it impossible for the foot to be entangled in it in case of a fall, is equally pleasant for general use, and therefore preferable.

The *Martingale* is used for the purpose of preventing the horse from carrying his head too high. The head of the horse may be pulled down by means of the martingale; but, take it off, and the horse throws his head up immediately. To be of any use in this respect, the horse must be constantly ridden in it; and should he trip or stumble, if the rider attempt to assist him, as in ordinary cases, he can scarcely fail to throw him down, since he thus deprives the animal of the power of recovering himself. In hunting I consider the use of the martingale as pregnant with danger. If a horse be deprived of the free and natural use of his head, he cannot go through heavy ground without extraordinary distress, nor can he take his jumps with ease and freedom.

A Lady's saddle should be fitted to the horse with the greatest exactness possible, as the manner in which a female sits on horseback cannot fail to give the saddle an inclination to the near side, and the horse must consequently suffer if there be not a correspondence in the saddle. The pommel should come down as close to the withers as possible, so as not to touch when pressed by the weight of the rider; and ladies' saddles, when properly made and properly fitted to the horse, will not require cruppers; but the girths should be crossed from the hind part of the saddle to the front, by which the saddle will be kept more steady: or a strap from the hind part of the saddle to the fore girth on the off side, may prevent the saddle from twisting to the near side.

GENERAL OBSERVATIONS ON HORSES.

I have repeatedly observed, that the horse is the most elegant quadruped in nature; with equal truth, it may be further remarked, that he is the most useful also: and although infinitely inferior to the dog in point of sagacity, yet, like that animal, he possesses the extraordinary faculty of finding his way home through a thousand intricate turnings and windings. Ride a horse a hundred miles from home, on a road which he has never seen before, and he will not fail to find his road home, without a single mistake, if allowed to obey the dictates of his own sagacity. Some years ago, I rode from Bowes in Yorkshire to the village of Weardale in Durham, the distance about thirty miles, and a considerable part of the way across moorlands where the road or path was very ill-defined, to say nothing of the endless turnings and twistings of the bye lanes along which we passed, and which rendered almost continual inquiry indispensably necessary, the road being perfectly unknown to me as well as to the animal which carried me. I was accompanied by a friend, like myself, entirely unacquainted with the road, and both of us mounted on ponies.

Utterly strangers to the road, we had to inquire of almost every person we met, and consequently proceeded slowly: but we thus never mistook our course.

After remaining for several days at Weardale, we set out on our return for Bowes; and trusting to the guidance of our ponies, continued our route without the least interruption, till we had accomplished about half the distance, when we came to a crossing where several roads were presented, one of which was unhesitatingly taken by our ponies, which we conceived must be wrong; and we therefore turned them about, and took another direction. The ponies testified reluctance, and it so happened that we had gone three-quarters of a mile before we had an opportunity of making the requisite inquiry—when to our regret we found that we must retrace our steps, and take the very road along which the ponies would have proceeded!

Whence the horse derives the faculty of finding his way home through all intricacies, is not known, though it is evident it must result from a sort of memory—a species of recognition which Phrenologists would perhaps denominate "*Individuality*;" and which in fact is common to quadrupeds; but unknown to, or not possessed by, human nature—at least in a state of civilization; although something of the kind seems to be demonstrated by savages, and particularly by the Indians of North America.

It will generally be found that horses with large wide foreheads are good tempered; on the contrary, where the forehead happens to be narrow and small, the animal will manifest a vicious disposition.

Some horses are alarmed at passing over wooden bridges, particularly those which swing across canals; on which occasions they should be soothed and coaxed; and if they still refuse to go over, the rider should dismount and lead the animal, as the horse will probably follow him; if there be another horse in company that will pass over, the alarmed horse will seldom fail to follow. On occasions like these, the whip and spur should not be used:

coaxing will allay the fears of the horse, and by a little practice his alarm will subside altogether.

In cases of fire, horses become so alarmed that it is difficult to get them out of the stable; and it has sometimes happened that horses have been burnt to death under such circumstances. The best plan on such occasions, is to place a bandage over their eyes and back them out, if they will not lead. If the horse happens to be in a loose box, or in such a situation as will allow of his being turned about, if, after the bandage be placed over his eyes, he be turned several times round, he will be easily led away. Where there is not time or opportunity for bandaging the horse's eyes, let two men place each a hand over his eyes, and back him out.

A horse would seem to possess a sort of superstitious fear, which is strikingly exemplified in passing along narrow gloomy lanes amidst the darkness of night; on which occasions, they will start at shadows, snort, and testify symptoms of a supernatural dread, in a manner too evident to be mistaken.

Some horses are inclined to lie down, when ridden into water, for the prevention of which the following methods are recommended by some of those sapient gentlemen who have written on the subject, and amongst the rest by Berringer, who very seriously tells us, that the rider should be provided with a flask of water, and at the moment the horse is about to lie down, the flask should be broken on his head that the water may run into his ears! Or the rider may provide himself with two bullets, with a hole drilled through each to suspend them by a piece of twine, when the horse attempts to lie down, to drop the bullets into his ears!!! It is really astonishing how such outrageous nonsense could enter the head of any human being; but, indeed, after what has appeared from the pen of that inexhaustible scribbler, Mr. John Lawrence, upon the subject of horsemanship and horses, we ought to be surprised at no absurdity whatever: to remedy for the propensity in question, what can be so effectual and so obvious as the whip or the spur or both? Moreover, if I suspected a horse would be likely to play such a trick, I would hold his head well up, and apply the spur if necessary.

In riding down a hill, let it be recollected that the horse should assume a corresponding declivity, and for that purpose he should be allowed the use of his head to the necessary extent, or he cannot accomplish the object. I am aware that, in such a position, the horse's head will appear at a great distance, a circumstance which might alarm a timid rider, from an idea that the horse was about to fall: he therefore pulls up the horse's head as high as he can, and, in consequence, the horse is rendered incapable of placing his fore feet firmly on the ground, and is therefore very liable to fall. The horse should have his head freely in going down hill (as well as upon level ground) by which he will take a corresponding declivity, the rider's body being perpendicular; and, if any suspicion be entertained of the safety of the horse's going, a watchful or ready hand may be kept upon him.

A friend, a few weeks ago, asked me what was meant by the word *Condition*, as applied to the

horse? And my reply was, that the condition must be understood according to circumstances, since a horse may be sufficiently in condition for slow work, but yet not able to maintain *the pace*. Leaving the condition of the racer out of the question (many of which are overtrained), a hunter, to be in perfect condition, should have as much muscle as possible placed on his bones by good keep, which muscle should be quite divested of fat, and rendered elastic, firm, and hard, by exercise and friction; or, in other words, by good grooming. This being the state of the muscle, the tendon cannot be wrong; on the muscle and tendon mainly depend the speed and strength of the horse.

It can scarcely have escaped the notice of those familiar with the subject, that the thorough-bred horse, after having experienced several removes from the original Arabian, loses that light, elastic, deer-like action for which the latter is so remarkable, and which indeed renders his mode of going so extremely beautiful. It will be very perceptible in the immediate descendants of the Arabian; but, in a few removes, it becomes extinct, and in its place is substituted a tremendous length of stride, which raises the English thorough-bred horse far superior to every competitor. If with this length of stride, the true Arabian action could be preserved, the English courser might be regarded as the very perfection of the horse. The Arabian horses which have hitherto made their appearance in this country have been small, and therefore in order to reach the stride of the English racer, several removes have generally been found necessary before the requisite size and length could be obtained, and in this process, as I have already observed, the true Arabian action has been lost.

Let us hear what Bruce, the celebrated Abyssinian traveller, says upon the subject:—

“At Halfaia (says he) begins that noble race of horses justly celebrated all over the world. They are the breed that was introduced here at the Saracen conquest, and have been preserved unmixed to this day. They seem to be a distinct animal from the Arabian horse, such as I have seen in the plains of Arabia Deserta, south of Palmryra and Damascus, where I take the most excellent of the Arabian breed to be, in the tribes of Mowalli and Armecy, which is about latitude 36°; whilst Dongola, and the dry country near it, seem to be the centre of excellence for this nobler animal.

“What figure the Nubian breed of horses would make, in point of fleetness, is very doubtful, their make being so entirely different from that of the Arabian; but if beautiful and symmetrical parts, great size and strength, the most agile, nervous, and elastic movements, great endurance of fatigue, docility of temper, and seeming attachment to man beyond any other domestic animal, can promise anything for a stallion, the Nubian is, above all comparison, the most eligible in the world. Few men have seen more horses, or more of the different places where they are excellent, than I have, and no one ever more delighted in them, as far as the manly exercise went. What these may produce for the turf is what I cannot so much as guess; as there is not, I believe in the world, one more indifferent to, or ignorant of, that amuse-

ment than I am. The experiment would be worth trying in any point of view: the expence would not be great.

"All noble horses in Nubia are said to be descended from one of the five upon which Mahomet and his four immediate successors fled from Mecca to Medina on the night of the Hegira. The horses of Halfaia and Gherri are rather smaller than those of Dongola, few of which are less than sixteen hands."

All the Arabians which have fallen under my observation have been little horses, and that this is generally the case with those imported into this country is beyond all question; and in consequence, whenever the pure original blood has been re-introduced, it has required several removes before that length and stride could be produced for which our racers are so very remarkable. Hence we clearly perceive the reason why the immediate produce of the little Arab and an English mare cannot compete with his long-striding rival; and on this account therefore the Arab has sunk in the estimation of breeders.

However, I have uniformly noticed in the immediate descendant of the real Arab, that light, bounding, deer-like action, which is conspicuous, and indeed a leading characteristic in the original breed; and which evidently decreases the farther we go from the true source, till at length the mode of going becomes clumsy and *lumbering*. Even with some of the horses which appear as racers, this may be noticed; but such horses are seldom successful on the turf: nor can they be, since they substitute strength and stretch for that elastic motion so essential to true running.

Since, then, the little Arab, or mountain horse, is objectionable to the breeder of this country merely from his diminutive figure, the Nubia, or horse of Dongola, would form an admirable substitute; as, if we are to place confidence in the accounts of those who profess to have been eye witnesses, with every advantage of size, he possesses all those essential requisites (in a superior degree) which characterise what is called the thoroughbred horse.

It is to the spirit of the emulation on the turf that we are indebted for our prime hunters and hacks; if therefore, the horse of Nubia be introduced, and our breed of racers thus improved, we may fully expect that our hunters and hacks will experience improvement precisely in the same ratio.

The inhabitants of these islands are evidently superior to those of every other country in the treatment of the horse; but the breeding department is perhaps susceptible of improvement. The introduction of the horse above noticed might effect this to a certain extent; and the judicious selection of individuals would essentially assist in furtherance of the same object. In the choice of either stallion or mare, form should be the criterion, since it is of no consequence what blood either may possess if the requisite form be wanting. From *form* alone, as I have already observed, results both strength and speed.

In the rearing of foals and young horses, attention is necessary, particularly in regard to the ground or pasture. Hilly, dry countries are fa-

vourable to young horses: flat and marshy ground, the contrary. Horses reared upon soft, moist and flat grounds have large (generally flat and thin) feet, since moisture promotes the growth of the horny hoof: further, reared upon ground of this description, their shoulders become upright from the mode in which they are compelled to feed—bringing the head as low as possible, and thus the shoulder necessarily comes forward. A straight shouldered horse must be unsafe to ride, and cannot be fleet. Horses reared in dry hilly countries have upright hoofs, handsome and good feet; and in consequence of feeding principally by the sides of the hills, their shoulders will assume the declining position—so essential to superior action, to safe going, to speed, and indeed to every thing valuable in the horse.

OH! REST THEE MY HUNTER.

Oh! rest thee my Hunter, Oh! sleep while you may,
To-morrow I ride thee, the wild Boar to slay;
So thick are the covers, the country so strong,
So swift are the wild Boars, the Chase will be long.

Then rest well my hunter, Oh! sound may you sleep,
For high are the hills, and the Nullahs are deep;
When once on thee mounted, the Hog in full view,
Then where is the country we will not get through?

So sure is thy footing, so good is thy speed,
Nor hedges, nor ditches, nor holes do I heed;
So firm is thy courage, that nought can dismay,
But seal'd is the Boar's death, when once brought to bay.

Then carry me swiftly, and when thou art old,
I swear not to sell thee, for silver or gold;
But range at thy pleasure, the rest of thy days,
Thou best of all Hunters, thou brightest of Bays.
G.

TO THE EDITOR OF THE MARK LANE EXPRESS.

In your paper of the 26th, I find a person who signs himself An Old Farmer, giving an account of the experiment he has made with two sorts of turnip seed, and proves the Yorkshire seed to excel the other, and to have withstood the ravages of the fly; and now I will give him my opinion upon the subject. The reason why the Yorkshire seed was more productive than the Northamptonshire was undoubtedly this:—If you will transport either seed or cattle of any description out of a warm climate into a cold one you will find the transition very unfavourable to their growth. This I know by experience, and have paid dear for it too. Again he says that quick lime destroyed the aphides; this I do not believe. My opinion is that the fine weather has tended to keep up the healthy state of the plant, and in proportion to the health of the plant, more or less are they attacked by the fly, for the fly will not attack a plant till it is become diseased. And another reason why the Yorkshire seed was more productive than the other was, that it had nothing to affect its growth; by being grown upon the same soil and in the same climate, it was of course hardier than the other, and so when sown maintained its vitality. If he or any other person will make the contrary experiment they will find the effects to be the reverse.
L. P. G.

STATEMENTS READ AT THE GREAT AGRICULTURAL DINNER AT MARETHILL.

No. 1.—*Management of Flax and Potatoes, by Mr. Rennox, Steward to the Rev. Dr. Blucker.*

MANAGEMENT OF A FLAX CROP.—October.—This ground was ploughed out of lea, about 10 or 12 inches deep. March.—The ground was limed lightly at about 20 barrels per acre. This soil, before the seed was sown, was prepared and brought to as fine a mould as possible, and well cleaned of all weeds. After the seed was sown (on 11th April), as soon as the weather would allow, it was rolled. This rolling, if performed in dry weather, in a great degree helps to keep a moisture about the seed, and is of great use if the succeeding weather be dry. This flax had sown with it clover and grass-seed—a greater benefit being derived to these crops when sown with flax than with any other crop—and this crop of flax continued growing from the first. The steeping or watering of this flax was managed in this way:—It was wholly covered in the water, so that none appeared above the water or bare, and it was not pressed too close in the water, for this would spot the flax, and injure the sale of it—it is a good way to cover it with any kind of litter, and get a coat of mud on the top; this will water it much more pleasing, and will do it 36 hours sooner.—The greatest difficulty in making flax saleable is in the watering and grassing. When it is ready to come out of the water the flax should leave the bone softly, but not too softly—and if it would feel hard it should lie 24 hours or so in the hot-heap before it be spread on the grass—and when the shove leaves the flax freely, it should be lifted off the grass. If the watering and grassing be performed correctly it will be marketable and good stuff.

There was of the above-mentioned flax 7lb. per perch, which equals 70 stone per acre, and 23 stone per bushel of seed. Allowing this to give, at 8s per stone, 28l. Total expense per acre, for seed, labour, &c., 5l. Clear profit, 23l.

The flax on potatoe-ground was of a finer quality than that which grew upon the lea. The difference is, the lea flax was a little longer and more strong than what grew on the potatoe-ground. I would wish also to mention that an early weeding of the flax is of great importance before it be grown to any great length. This potatoe-ground flax had 5lb. per perch, which is 50 stone per acre, and 16 stone per bushel. This flax being rippled for seed, lost by rippling 3lb. per perch, which equals 5 stone per acre. The manner in which the bowes were saved is as follows:—First, there was a temporary shed erected in the open field, with lofts in it for the bowes to be won upon; the lofts were made of bramble, so that the air could be admitted through them, and the covering of the shed were tarpaulings, fixed so that they covered it through the night, and could easily be removed in the day time, and the seed was turned occasionally, or about twice each day, till they were ready for carrying home. We kept them in the shed 14 days, then we removed them home and put them on a loft—it is now as good as any over-sea seed could be. There are about 20 bushels of clean flaxseed per acre, which if sold at 10s per bushel, is 10l. The loss on flax, by rippling, 2l; expense of rippling, per acre, 8s 1d; attending rippers, and other expenses, until it was brought home, per acre, 17s. Clear profit, 6l 14s 11d.

MANAGEMENT OF A CROP OF POTATOES.—Jan 15.—This ground was ploughed out of lea as deep as possible, and after ploughing it got a good cross harrowing, and was then plough-trenched; then we took the back and whit out of the middle of the ridge and levelled up the trench-furrow—then we put over these ridges about forty barrels of lime, per acre. After this it was set up by spades in ridges for potatoes, the furrow being taken out of the middle of the former ridge—then we picked the furrows and dug them so as to raise as much sub-soil as possible to put over the ridges as for earthing the potatoes. As it is evident by sinking the furrows we

raise some stones, and in order to clean the ground of them we made a sewer in every sixth or seventh furrow. By this kind of culture, which we may call winter-fallowing, we can grow wheat on ground which before we commenced this labour would not grow that crop with advantage; and, also, grass and clover with a much greater benefit. These potatoes were set about the latter end of April, we put them in by the back of the spade, for as the soil being in this form it is much drier and will favour the early setting of the potatoe crop, as it is better to have them in early in case of a failure, so that they might be renewed again in time. The manner in which we keep our seed potatoes is this:—we let them be as ripe as possible before we dig them out, and when we dig them out we arrange them in the pits so as not to have too many together.—We give them a light covering with the shoves of the flax. This, in a great measure, prevents a dampness or the sweating of the potatoe; then we put about eight inches of earth over that, adding a scraw on the top.

By the foregoing management we have five bushels per perch (English), which equals 800 bushels per acre—and this crop of potatoes was grown on lime alone without any other kind of manure. If a wheat crop have to be put in, it may be dug in by the digging out of the potatoes. We dig them out standing on the dug ground, and put the spade under them; this can be done without cutting any of the potatoes, which is also profitable. We had no failure in our potatoes this year, and we had about twelve acres set. But I think a great many people suffer injury by letting the seed lie too long on the ground before they cover it, exposed to both the heat of the sun and air; but our mode of setting does not expose them, in any manner, as the seed is covered as soon as it is dropped.

No. 2.—*Letter from G. Meara, Esq., as to the making up of Butter in County Waterford.*

May Park, Waterford, Nov. 10, 1836.

My dear Mr. Blaeker,—I have made the inquiry you wish for in your letter, which I received yesterday. There is a pretty good supply of fine butter at the Waterford market, which brings within a few shillings per cwt. of the Dutch in England; but the quantity made up as Dutch, packed in similar casks to Dutch, is very trifling, those casks being large, about 1 cwt., whilst the usual Irish package is a firkin, about 3 qrs. gross, or 65lbs to 70lbs. In the make of butter the milk or cream should not be suffered to sour, but churned sweet, and the milk well washed out, with as little handling as possible; the quantity of salt to each firkin not to exceed four pints; and if the butter be intended for early consumption, but three pints of salt will be sufficient. The salt should be made as fine as possible, and when the finest salt cannot be had, it should be pulverized with a rolling pin; about a teaspoonful of saltpetre to each firkin, is considered by some an improvement. The Dutch casks are made of seasoned ash, with osier hoops, twelve in number, and peeled, which gives the cask a white, neat appearance; each cask contains from 100lbs to 112lbs of butter. This package is nearly given up here, and almost all the butter goes in firkins, full bound; most particular attention should be given to have the butter well packed, and that the timber be well-seasoned, of which the package is made.

I believe I have answered all the butter queries, and shall be happy, at all times, to hear from you on any subject.—Believe me your's, very truly.

GEORGE MEARA.

No. 3.—*Letter from S. Corry, Esq., Newry, on same subject.*

Newry, 15th Nov., 1836.

Dear Sir,—From the best information I can collect, on the subject of making up butter in this country, too much salt is used. One ounce of good Irish salt to the pound of butter is sufficient, and butter so made up would command a better price.

S. CORRY.

No. 4.—*Statement of the quick growth of Rye Grass, by Mr. O'Neill.*

Italian Rye Grass, sown June 23d, 1836, measured 18 inches, August 8th; 24½ inches, Aug. 12th; 31½ inches, August 15th; 33 inches August 21st.

RAPE CROP FOR 1835.—The rape crop, rightly deserves all the applause which we can give it, as it supports our cattle in that season of the year when there is no other green herbage to be got. I, therefore, state the different quantities sown and cut at different times as follows:—First sowing, sowed 20th July; first cutting of do., 3d February, equals 2 cwt. per perch, which is 16 tons per acre; and second cutting of do., 5th April, equals 1½ cwt. per perch, which is 12 tons per acre. Second sowing, sowed 20th August; first cutting of do., 20th May, equals 2½ cwt. per perch, which is 22 tons per acre. Now, three acres of the above rape have supplied our cattle with a sufficiency of green food for the Spring quarter.

No. 5.—*Statement of Italian Rye Grass by Mr. Rennie.*

ITALIAN RYE GRASS.—This seed was sown in April with flax, and as it grows to a great length, care must be taken to separate the flax from it in the pulling, some of it being from four to five feet long in August; and when the flax was pulled we mowed the grass to encourage a good sole. The pulling of the flax does not injure it, if performed with care, for sometimes the first joint may be pulled off, but if the root be not disturbed it does no harm; and in better than two months it has grown two feet long, and has a very healthy and green blade; and by the appearance of it now I think it will stand the Winter's frost, and be a great assistance to rape feeding.

No. 6.—*Letter from Henry T. Higginson, Esq., Lisburn, on the same subject.*

Lisburn, Nov. 9, 1836.

I sowed two garden plots with it, one of them the latter end of March. There was about half an English acre in it, and I sowed ¾ths of a bushel in it. I cut the grass from it the latter end of June, and again cut it the latter end of August, and I am cutting it a third time, and it is good feeding, as green food, for cows. The first time I cut it it was better than four feet three inches long, the second was better than four feet long, and it is now two and a half feet long. The second plot I sowed the latter end of April, and I cut it the first time about the 7th of July, and I have cut again since in September, and had the weather not been so severe I am sure I could have cut again the end of this month. The ground was garden-ground, and in good garden condition. I am sincerely yours,

HENRY T. HIGGINSON.

P.S.—I tried to save the seed, but the grass was too rank, and lay down.

No. 7.—*Statement by C. W. Hamilton, Esq., of the progress of the Green Crop system in Westmeath.*

Harewood, November 2.

My dear Sir,—I returned yesterday evening from a visit with Mr. Tighe to his Westmeath estate. He seemed to be pleased with the enthusiasm shewn by the turnip coverts; and, indeed, although it is difficult to prevent one-self from being too sanguine, I am a little provoked with the tardiness of some. I do not think I have any reason to be dissatisfied with the progress made in our second season—and the content and gratitude of those who are really reaping the benefit of the system is very inspiring. The poor tenants are the most improving. It is hard to move those in whom extreme poverty does not act as an incentive to extraordinary exertion. I have been obliged to lend money to some tenants to buy cows to eat this food; but I hope it will be possible soon to do this through the means of a Loan Society, when demands become more frequent on Mr. Tighe's estate. Out of 71 tenants 48 have sown clover, which had never been in use in that part of the country before; 50 have sown vetches; 32

have sown turnips and mangel wurzel; 15 cows have been house-fed during the whole Summer, and the number will now rapidly increase. I have more difficulty with the tenants of Wilson's Hospital, but still there are about 40 tenants who have come into the system, and some upon a large scale. A few have sown as much as an Irish acre of turnips. On Mr. Tighe's estate one man, whose rent is 2l 4s 5d per annum, shewed us a cow and two pigs: for the pigs he had refused 7l; and since the first of June he had made 4l by the butter of his cow: he had formerly been in the habit of paying 3l for her Summer's grass; he had sown clover and vetches together in April last, and cut it twice since then. Another man showed us a dunghill near as high as his house—he said that, two years ago, he had been obliged to thrash out all his oats to make the rent, and that now he had manure enough to manure all his ground, his full rent in his pocket, and not a sheaf touched yet. We did not hear a complaint about the amount of rent, which, certainly, is very moderate; but on the contrary, the most exulting boasting of their readiness to pay it. I am sure these instances will give you pleasure, and I am sure also, that, even if these two were all I could quote, you would bid me not despair of seeing a great change in the comforts of the people, after the lapse of a few years.

CHARLES W. HAMILTON.

No. 8.—*Statement of Hugh M'Sherry of the Improvements in his Farm.*

Dear Sir,—I would wish to inform your Honor in respect of the improvements I have made. Some time back I had only 17 acres of land, and at the present I hold 47 acres. The enlargement of the same cost me 400l, and the rebuilding of my house 160l—which sums were solely realized from farming. The greater part of my land was in spent bog, which, in reclaiming the same, necessarily occasioned the fields to be small. Your Honor's advice to the tenants was to put down all useless ditches. I have done so, filling up the gripes with stones and have from four to five acres in each field. I consider that, by following your Honor's advice, I have gained three acres of land: and should your Honor call on me this evening I will give further explanation.

I remain, truly, your most obedient servant,

HUGH M'SHERRY.

No. 9.—*Mr. Simpson's Statement to prevent failure in Potatoe Crop.*

Having had a total failure in my potatoe-crop in the year 1832, since that period I have used every means in my power to find out the cause. As to the potato degenerating there can be no doubt of it, but by good cultivation there can be much done to prevent it. The ground should be ploughed early in the season, and well limed, and made very fine before putting the manure out; the manure when put out should be immediately covered to prevent the juice from leaving it. I have found, when the ground or manure were in a damp or moist state, no failure whatever. In my land, this year, there are 18 lots, set in roods to separate persons, and the seed all different, and not a failure in the whole, while all my neighbours have more or less missed. As regards my seed potatoes, when taken out at November, I have them put in their bins, and well covered with earth alone, until I am going to plant them; I then have them cut 24 hours before planting. By adopting this plan I have succeeded in my potato-crop for the last three years.

WM. SIMPSON.

Killeen, 21st Nov. 1836.

No. 10.—*Mr. Bruce's Experimental Results on the Failure of the Potatoe Crop.*

I have found that all potatoes put into the ground the same day that the drills were opened, and manure spread, and immediately covered up and rolled, were no failure; if delayed till next day in the afternoon, a

complete failure. For experiment, I dried 24 potatoe sets in the sunshine for nine days, until they were completely withered and soft. I then put 12 of them into new dug soil, and all turned out healthy plants. The other 12 I put into dry, withered soil, in the common way, and all failed. The sets were put in at the same time.

All ground for potatoe should be ploughed early in Winter, and again in March, should be ploughed, harrowed, and cleaned of weeds, and left down in a fine, smooth state; and if a drought commences in April, let the farmer plough as much every morning as his help can finish that day, while the soil is moist. As potatoe are getting more tender, they are not able to stand such rough labour as they have done formerly. Whenever the soil is much drier than the cut seed the dry moulds suck the moisture from the seed sooner than the potatoe can vegetate, which causes the dry-rot. I have taken potatoe this season in June which had been in the ground all winter, when they were four and five inches long, with green tops, and cut them, and not failed when they were planted in moist soil.

THOMAS BRUCE.

No. 11.—George Scott's account of his Experiment in feeding Milch Cattle upon boiled Turnips and steamed cut Hay.

TO WM. BLACKER, ESQ.

SIR,—By giving the following statement publicity with the proceedings of the farmers' dinner, it may be of use to some of its readers. I tried the experiment as directed by you of feeding with boiled turnips and steamed hay cut, and I find a great deal more benefit by it in the increase of milk than feeding with the raw turnip. I began to feed one springing cow in the month of Feb.; at that time she was giving about four quarts per day with the above feeding, together with a little bran. The increase of milk in one week was two quarts per day. I would recommend this feeding of milk cattle to persons that have plenty of fring. A springer fed in this way in winter will give a great deal more milk when calved in summer. I remain, your obedient servant,

GEO. SCOTT.

Lurgaboy, Nov. 18th, 1836.

No. 12.—Experiment of Mr. Wm. Herd, Steward to Earl of Gosford, as to feeding Milk cows on boiled Flaxseed, and Cost of sowing Flaxseed.

Gosford, 18th Nov., 1836.

SIR,—This year I have rippled six acres of flax, and from that I have 210 bushels of flax-boles, and according to the experiment made, each five bushels of boles will give one bushel of seed. According to this calculation there will be forty two bushels of seed. Expense of rippling is 4l 2s; kiln-drying, 1l 0s 2d, which I think is the cheapest way of saving the seed—the value of the seed at 10s per bushel will be 21l. I have made an experiment of feeding one cow on flaxseed; in the course of four days her milk increased from 5 quarts to 7½ quarts. I have given her 3 quarts of seed each day: the way I prepared it was this—by boiling it two hours, adding water to it as was required, also a small quantity of salt. The value of this seed would be 11½d per day. I am, Sir, your humble servant,

WM. HERD.

I am afraid you will think the foregoing account and documents too long for insertion; but I have not been able to give you half of what passed, and which would be most instructive to the great body of Irish small farmers to hear. I hope you will consider the report as important as I do.

In the Eastern part of this county, the snow storm was severely felt, and great losses have in consequence been sustained. Mr. Smith, of Cadborough, near Rye, had a thousand sheep, we hear, buried in the snow, which had drifted into the dykes in Romney Marsh, of which number, nearly 500 perished. Twenty six sheep belonging to Mr. Tourle of Landport have also been frozen to death. In Pensenvy Marsh likewise many sheep were lost in a similar way.

PROGRESS OF AGRICULTURAL AND GENERAL PROSPERITY.

The following extract from a statistical work recently published by J. R. McCulloch, Esq., gives a cheering view of the general progress of Society as evidenced in a better and larger supply of food, in the present day, compared with that of the "good old days."

"Mr. Charles Smith, the well-informed author of the tracts on the corn trade, estimated the population of England and Wales, in 1760, at 6,000,000, which as we have previously seen, was pretty near the truth. He then estimated the consumers of each sort of grain, the quantity consumed by each individual, and consequently, the whole consumed by man, as follows:—

Estimated Population of England and Wales.	Average consumption of each Person.	Consumed by Man.
3,750,000	Consumers of wheat, at 1 qr each	3,750,000 qrs.
739,000	— of barley, at 1½	1,016,125 —
888,000	— of rye, at 1½	999,000 —
623,000	— of oats, at 2½	1,791,225 —
	Consumed by man	7,556,325 qrs.

"Now, it will be observed, that of the 6,000,000 of people in England and Wales, in 1760, Mr. Charles Smith tells us that no fewer than 888,000 fed on rye. But at present we are quite sure there are not 20,000 who use that species of grain. The rye eaters have universally almost been changed into wheat eaters; and, except in the county of Durham, where a mixture of wheat and rye called *maslin*, is grown, the culture of rye is almost unknown. Nearly the same may be said of the consumption of barley. In the northern counties of England, at the middle of the last century, and for long after, very little wheat was used. In Cumberland, the principal families used only a small quantity about Christmas. The crust of the goose-pie, with which every table of the county is then supplied, was, at the period referred to, almost uniformly made of barley-meal. But no such thing is now ever heard of, even in the poorest houses. Almost all individuals use wheaten bread at all times of the year. It is in fact, the only bread ever tasted by those who live in towns and villages, and mostly, also, by those who live in the country.

It has been the same every where throughout the kingdom. In Cornwall from 30 to 40 years ago, the small farmers, with the agricultural labourers, and those employed in the mines, almost invariably used barley; but at present they do not use it to any thing like the same extent as formerly, and in many extensive districts it has been entirely abandoned. The same thing has happened in Somersetshire, and in every other county where either barley or oats was formerly made use of. Wheat is now the all but universal bread-corn of England; and in some of the manufaring towns, within the last few years, the use of the inferior sorts of wheaten bread has been a good deal restricted; and is rejected indeed by all but the very lowest and poorest classes.

"The change that has taken place during the last half century in the consumption of butcher's meat, is still more extraordinary than that which has taken place in the consumption of corn. The quantity made use of has been wonderfully increased, and its quality signally improved. From 1746 to about 1750, the population of the metropolis fluctu-

ated very little; amounting, during the whole of that period to about 670,000 or 675,000. Now, during the 10 years ending with 1750, there were at an average, about 74,000 head of cattle, and about 570,000 head of sheep sold annually in Smithfield market. In 1831, the population had increased to 1,472,000, or in the ratio of about 218 per cent.; and at an average of the 3 years, ending with 1831, 156,000 head of cattle, and 1,233,000 head of sheep were annually sold in Smithfield; being an increase of 212 per cent. on the cattle, and of 217 per cent. on the sheep as compared with the numbers sold in 1740—50. It consequently appears that the number of cattle and sheep consumed in London has increased, since 1740, about in the same proportion as the population. The weight of the animals has, however, a good deal more than doubled in the interval. In the earlier part of last century, the gross weight of the cattle sold at Smithfield did not, at an average, exceed 370lbs., and that of the sheep did not exceed 28 lbs.; whereas, at present, the average weight of the cattle is estimated to about 800 lbs., and that of the sheep at about 80 lbs. Hence, on the most moderate computation, it may be affirmed that the consumption of butcher's meat in the metropolis, as compared with the population, is twice as great at this moment as in 1740 or 1750.

STOCK OF CORN IN FOREIGN PORTS.

Since the rumour went forth that the harvest had failed in England numerous speculations have been entered into on the continent, in anticipation that our ports would be opened. That grain must be imported seems to have been taken for granted; but it was explained some weeks ago, that the large quantity here in bond, and the larger quantity lying in foreign ports which had been already paid for with British capital, rendered it probable that it would not be necessary to send much gold out of the country for such a purpose. It, however, has now become a question of some interest what quantity of wheat of each quality may be obtained at those places from which a supply may be drawn. A first-rate merchant's house in the city received on Saturday the following detailed account of the wheat now on hand at Leghorn. The writer dates on the 16th December :—

STOCK OF WHEAT AT LEGHORN, DEC. 16.

SACKS.	lbs.	LIVRES.
4,500 Soft Odessa 1st qual., 1834	167 to 168	13½ to 14
70,000 Ditto 2d ditto, 1835	161 to 164	12½ to 13
2,000 ditto, inferior	158 to 159	12
10,000 Barletta prime quality	170 to 172	15
25,000 Ditto, 2d quality	162 to 164	13½ to 14
8,000 Ditto, very inferior	159 to 160	12½
12,000 Danube, inferior	152 to 154	9 to 10
15,000 Egypt, white and red	146 to 147	8½ to 9½
4,000 Maremma	168 to 171	13 to 14
58,000 Hard Taganrog Marianop	175 to 177	13½ to 14
16,000 Ditto, 2d quality	172 to 174	12½ to 13
20,000 Ditto, 3rd quality	165 to 170	11½ to 12
8,000 Ditto Naples and Sicily	164 to 168	11½ to 12
6,500 Ditto, Meschiglie Morea	162 to 164	10 to 10½

259,000
6,000 different qualities.

265,000		
2,600 Black Sea Rye	160	8½ to 9½
6,000 Tuscan Oats	110 to 112	5 to 6
2,000 Naples ditto	99	5 to 5½

PNEUMONIA—CARDITIS—HEPATITIS.

BY MR. W. DODMAN, THORNEY ABBEY, NEAR PETERBOROUGH.

(From the Veterinarian.)

A very beautiful grey aged cart-mare was observed by the carter to have a slight cough. Two days afterwards she refused her food: the circumstance was mentioned to the owner, who immediately sent her to me.

I first saw the mare on the 24th November, 1836, 10 A. M. Pulse oppressed, 50; breathing hurried; nostrils expanded; schneiderian and conjunctival membranes much reddened; stiffness about the fore-quarters, and unwillingness to move them; ears and legs rather cold. I bled to the extent of lbxviii, which seemed to have a very beneficial effect. I gave magnes. sulph. ʒviii, digitalis pulv. ʒj; and ordered clysters of warm water, with a small quantity of table salt to be frequently thrown up; the legs to be well rubbed and bandaged, and the mare to be warmly clothed and placed in a cool box.

4 P. M.—Membranes continue injected; pulse again oppressed, 50; respiration worse; ears cold. Bled to lbxij; a warm perspiration immediately followed, and in other respects she seemed much relieved. Blister the sides: insert rowel in chest; and give the following in gruel every six hours:—potass nitr. ʒij, digitalis, antim. tartar. aa ʒj.

9 P. M.—Pulse 76, full; breathing better, ears and legs warm. She has been down, and moves about her box. I think her better on the whole, but the state of her pulse is calculated to create alarm.

25th, 10 A. M.—Pulse same as last night; other symptoms the same. Rowel is beginning to take effect; the blister has not risen; indeed, it has hardly had time to do so; but I am anxious to obtain speedy counter-irritation, therefore rub in some blistering liniment. Continue clysters and other treatment.

9 P. M.—The bowels have been kept in very regular condition by the clysters. The membranes are still injected—that of the nose has assumed more of a purple hue; she breathes better; there is more of regularity and natural action at her flanks; her ears and legs are of the natural warmth, but she is fidgety, her countenance is anxious, and her pulse has increased to 100, hard and full. The action of the heart is now distinctly audible at a short distance from her side. Her strength is remarkably well maintained. Bled to lbxij; let the medicine be given every four hours, blister repeated, and other treatment continued. Her only food consists of a few slices of carrots and a little hay. Each bleeding was pursued until the pulse was sensibly affected, or fainting appeared.

26th, 10 A. M.—The bleeding of last night has not at all affected her pulse, which continues the same in frequency and character. I have now scarcely a ray of hope of her recovery. Her strength is rapidly declining; depletive measures, therefore, must not be carried further. The other symptoms are much the same as last night, except that the conjunctiva has put on a yellow tinge. Horn down some thick gruel, and continue treatment, repeating the blister, &c.

9 P. M.—Much worse. Ears and legs cold—deathly, clayey cold; pulse 100, full, intermittent; then small; then it would beat a few powerful strokes, pause, again become feeble, succeeded by palpitation. She has been observed to look round at her sides two or three times during the day, and she has

laid down on her left side, but only for a moment. Her dissolution is fast approaching. The rowel is going on well, but the blister has not risen. A sour-smelling froth hangs about her mouth. I did not believe she would continue long, but was determined to use every available means. Rub a strong stimulating embrocation on her legs; apply hot fomentations to the blister for an hour; and let the following medicine be given every six hours, the first dose with ℥vij ol. lini, hydrarg. subm., digitalis, gentian, aa ʒj.

10 P. M.—I was sent for in great haste. The fomentations had been used about half an hour, when the mare fell down, and all present supposed she was dying. When I arrived she had become more tranquil, was on her legs, and drank about three quarts of gruel. All the symptoms are aggravated. The pulse is increased in frequency, being about 100, and maintaining its strange, irregular character. The mare died about half past one.

Remarks. *Setio Cadaveris.*—The lungs were only slightly inflamed, by which I must suppose that, although the symptoms were, in the early stage, decidedly those of pneumonia, and of a very urgent character, the inflammation had by metastasis, assumed a more serious form, viz., carditis; probably from constitutional diathesis, as the mare was in high condition. The heart shewed appearances of the intensest inflammation, was enlarged, and both ventricles filled with blood. The liver was just beginning to participate in the mischief. The abdominal viscera were quite healthy.

This, in the beginning, was a clearly-marked case of inflammation of the lungs, and seemed to be giving way to the measures I adopted; but the delusion was transient: all the symptoms speedily assumed an extraordinary and fearful character, anomalous and contradictory. The breathing improves, the animal lies down, her extremities become warm, but the membranes continue highly injected, and the pulse still rises, and becomes full and hard, although the most energetic treatment was observed. Balancing the symptoms together, I concluded that the inflammation had become transferred to the heart; and the inactivity of the blister proved the intensity of that inflammation, and the little hope of recovery. How rapidly were the organs of the circulation involved, as it were, in common sympathy; and yet a diagnostic symptom for each. The yellowness of the eye plainly indicated that the liver was not free from the almost general derangement. The blood, in all the bleedings, did not separate, but formed speedily into a dark homogenous mass. It is an instructive case, and one which I consider calculated to throw light on future practice.

TOBACCO AND SHEEP. — Mr. M'Queen, in his Statistics, pages 19 and 21, proves that the number of sheep in the United Kingdom cannot be less than 48,000,000. If one great agriculturist in Kent requires eight tons of tobacco or 16,000 lbs. for the use of his tenantry, and which the government has permitted to be sent from the London Docks duty free, though the duty amounted to 2,400l, we may presume that every farmer in the United Kingdom would require a proportionate quantity for his flock, provided he could obtain it at a moderate price. If we reckon four ounces to be the least quantity which each sheep would require to keep it in health, the consumption, for that purpose only, would be 12,000,000 lbs, which, at the duty of 1s per lb, would produce a revenue of 600,000l. This is another strong fact proving the impolicy and injustice of the government in continuing the present enormous duty of 3s per lb.

KENT AND CANTERBURY CATTLE SHOW.

The show was much thinner supplied with all descriptions of stock than we have of late seen it. In both sheep and cattle, however, the quality was very superior. The following prizes were awarded:—

	£.	s.
First premium, best cart stallion—W. Roper, Teynham	7	7
2nd ditto, best yearling cart colt—A. Neame, near Faversham	5	0
3rd ditto, best bull not under two years old—J. P. Plumptre, Fredville	6	0
4th ditto, best fat ox or steer—Ditto	5	5
5th ditto, best fat ox or steer bred and fed in the county—Ditto	10	10
6th ditto, best fat maiden heifer, ditto—D. Dixon, Moldash	5	0
7th ditto, best pair of heifers under three years old—T. A. Champion, Sarre	5	0
8th ditto, best pen of 3 one year old long-woolled wethers—W. J. Lushington, Rodmersham ..	5	0
9th ditto, second best ditto—J. Wotton, Fordwich	4	0
10th ditto, best pen of 3 two year old ditto—J. Neame, Selling	5	0
11th ditto, second best ditto—Ditto	4	0
12th ditto, best pen of 3 one year old ditto, bred and fed in the county, on grass only—F. Dodd, Throwley	5	0
13th ditto, second best ditto—John Wotton, Fordwich	4	0
14th ditto, best pen of 3 two year old, ditto—Ambrose Collard, St. Nicholas	5	0
15th ditto, second best ditto—W. Stunt, Sevington	4	0
16th ditto, best pen of 3 long-woolled ewe tags—W. J. Lushington, Rodmersham	4	4
17th ditto, second best ditto—Ditto	2	2
18th ditto, best one year old long-woolled ram—Stephen Swinford, Sarre	5	5
19th ditto, best two year ditto—Edward Slater, Preston	5	0
20th ditto, best pen of 3 one year old short-woolled wethers—G. Eastes, Waldershare	5	0
21st ditto, best pen of 3 two year old ditto—J. P. Plumptre, Fredville	5	0
22nd ditto, best pen of 3 short-woolled ewe tags—Lord Guilford, Waldershare	5	0
23rd ditto, best one year old short-woolled ram—H. Boys, Esq., Malmaims	5	0
24th ditto, best two year old ditto—Ditto	5	0
25th ditto, to the grower of a best long-woolled fleece—J. Oakley, Frindsbury	3	3
26th ditto, to the grower of the best south down fleece—H. Boys, Esq., Malmaims	3	3
27th ditto, most approved lot of Swedish turnips—T. Coleman, Ash	2	0
28th ditto, most approved lot of any other sort—Ditto	2	0
29th ditto, most approved lot of mule turnips—J. P. Plumptre, Fredville	2	0
30th ditto, most approved lot of mangel wurzel roots—Robinson, Preston	2	0
31st ditto, heaviest lot of ditto—S. Collard, Chislelett	2	0
32nd ditto, to Thomas Leonard, shepherd to Sir Edward Dering, having reared 428 lambs from 400 ewes	3	0
33rd ditto, to William Watson, shepherd to Mrs. Weston, Tenterden, having reared 182 lambs from 142 ewes	3	0
34th ditto, no competition—given to Thomas Crow, having worked 55 years under E. Knight, Esq., Godmersham	3	0
35th ditto, to Richard Rolfe, shepherd to Mr. Eastes, Guston Court, having reared 155 lambs from 120 ewes	3	0
JUDGES. — Horses: William Petley, Ash. Sheep: James Putland and F. Murton. Bul-		

locks: William Hobbs, James Bacon, and George Bank. Roots: William Masters and Charles Leese.

EXTRA STOCK.—The Judges highly commended Sir Edward Dering's Durham cow, and Mr. Solly's Sussex cow.

EXTRA SHEEP.—The Judges also highly commended Mr. Gascoyne's one year old long-woolled wethers, and one year old ram; also, Ald. H. Cooper's one year old long-woolled wethers, grass fed; Mr. Wotton's ewe tag; Mr. R. Collard's two long-woolled lambs; and Mr. G. Morgan's two one year old rams.

The wool of Mr. Boy's short-woolled tags was highly commended.

THE TURNIP FLY.

The Turnip Fly is not always of one kind, but the difference in them is not very important, for they only alter in their paint, their build is always alike. The most common is the bottle-green, but in some fields all are painted black, with a white line on each side from stern to stern down the deck. They are so active, that the only way in which I could ever obtain them in newly sown fields, was by sweeping the surface with a gauze net on an iron hoop at the end of a strongish stick. They jump like fleas as soon as they see you. This insect, or rather its grub, commences its attack on the turnip as soon as it is up, avoiding the two catyledons and the little heart, and sometimes in a few days leaving the field as brown as it was on the day it was sown. Schemes without number have been tried to get rid of, or kill this little pest wherever it has appeared. I have always observed the greatest quantity of grubs on very young plants; they are very various in size, and it is not before the plants are a fortnight or three weeks old, that the beetles appear in any quantities. Yet there are some beetles observed from the first coming up of the plant. Now, I know from experience, that turnip fly feeds on wild mustard, and several other hedge plants, and therefore it is not improbable that when they smell the fragrance of the fresh bursting catyledons of their favorite food they would skip down from their Spring habitations, the hedges, and make their attack. I first sowed some seed in a flower-pot, with earth out of my garden; it produced the insect in abundance. 2nd: I inclosed the pot with pasteboard and canvass, with the same success; but there was still a possibility of the enemy getting in, as I had not made the cover sufficiently close. 3rd: I made a light frame, about eight inches square, covering it with a very fine silk gauze, carefully stopping the crevices of the door with wasted paper, and round the pot where the cover was fastened on it with putty, so that there was no possibility of any thing coming to it from without. Yet this experiment was attended with the same success; except that one point, that is, a negative point, was now proved, namely, that the fly did not come to the turnip from other plants, and this was a point gained. 4th: I baked the earth in a cast-iron pot over the fire, and used no other water to the seed but such as I had boiled myself, applying it at the bottom of the pot in a common feeder. Then I exercised the same care, and took the same precautions as before; I did not take off the cover till the plants were of a considerable size, and I found them all alive with beetles. I had now made another step; having before found that the beetles did not come from other plants, it was now clear that it was not in the earth, nor in the water. 5th: With a lens I examined the seed, and found on it a number of white flattish substances; some of the seeds were

without any, but there were generally one, two, three, four, and in one instance five on a single seed; these I concluded were eggs, and I thought the only way left me was to attack them. It would have been enough to take them off with a needle, but I could not see how I was to employ a needle and a magnifying glass on a sack of turnip seed. I, therefore, made some pretty strong brine, and soaked the seed in it for twenty-four hours, then dried it thoroughly, and, with all the precautions I have mentioned, I sowed it again, and I found that without weakening the brine, if the seed was only kept in it three hours, there were no beetles, but yet the seed came up as well as ever. I now practised this method with the turnip seed, cabbage seed, and, in fact, with all the cruciform plants in common cultivation, with very satisfactory success.

The whole of these experiments were made on Swedish turnip, which is generally more infested by these beetles than any of our older sorts.

RUSTICUS—*Ent. Mag.*

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—I beg to assure your correspondent, "An Old Farmer" that I am very sorry for the disappointment he has experienced in sowing some of my Swedish turnip seed. I should have been much surprised at his statement of the defective weight produced from my seed, had it not been for the following circumstances:—At the usual time of transplanting turnips for seed, in 1835, my farming foreman began by taking the turnips from a crop that had been sown very early; they were apparently fine, but from the dryness of the summer, the tops had mildewed, the general consequence in such a case is, that the turnips if left till spring, are seldom free from some decay at the root; finding these were not, I had others planted that were smaller, of crop sown much later. The seed produced from the large turnips ripening prematurely, I had it cut first, and my farming man put it into a separate sack. My house-servant weighed the seed out as it was wanted; but it was unknown to me till the sowing was over, that he had made a mistake in the sack, and sent out some part of the inferior seed, which no doubt your correspondent had. If he will be good enough to favour me with his address, I shall have pleasure in begging his acceptance of half a dozen pounds of my seed raised this year, and I flatter myself that (if he approves of a sort that will not, if left till spring, run to neck and produce worthless fangs,) he will like the turnips.

In mentioning my sort of Swedes in my Summary of Practical Farming, I observe that a greater weight per acre may be obtained by a coarser kind, which I think perhaps, for my stall feeding purpose, might answer better. For three or four years past I have sowed small quantities of many sorts that have been highly spoken of, but have never yet had a sort that I liked enough to transplant for seed. Perhaps your correspondent will favour me with a small quantity, (half a pound will be enough) of his seed.

I travelled through a great deal of country last October, but certainly did not see one crop of Swedish turnips superior to mine. The weight per acre I did not know, for as there were only Lord Spencer and myself this year in the Northamptonshire Sweepstakes, as his Lordship's crop could not

at all compete with mine, it was not weighed; had it been, I have no doubt but it would have been quite equal to your correspondent's crop produced from Yorkshire seed.—I remain, Sir, Your's, &c.,

C. HILLYARD.

Thorpelands, near Northampton, Dec, 27, 1836.

SMITH'S SUB-SOIL PLOUGH.

TO THE EDITOR OF THE MARK-LANE EXPRESS.

Ossington Farm, Dec. 23.

SIR,—The article which you have copied from a Sussex paper respecting the use of the sub-soil plough, requires from me, as one of the persons referred to, a few words by way of explanation.

It is quite true that I did visit Mr. Smith, at Deanton, as well as several of his "intelligent and spirited agricultural neighbours," and that I, with my companion, returned deeply "impressed" with the value of the subsoil plough for *strong clay-land which has been well drained*; but the expression *deep-draining* does not apply, and is calculated to mislead. Mr. Smith has, I believe drained the whole of his farm at the depth of about two feet, and no more; and from two feet to two and-a-half feet, may be said to be the depth adopted by most of the improvers, whose farms we visited: this is not *deep-draining*.

I would advise your correspondent "T. F.," to take the earliest opportunity of visiting Mr. Smith's highly improved farm, when he may judge for himself, as to the comparative importance of the two "improvements," of which he speaks. I venture to hazard the opinion, that he will not after doing so, again apply the words "extravagant," and "ridiculous," as he has done in the letter before me.

I could adduce many reasons to show, that the introduction of Mr. Smith's entire system of draining, and subsoil ploughing on *strong clay soils*, is fully as important an "improvement" to the occupiers of land of that description, as was the introduction of the "turnip system" to the holders of lighter lands; but there is nothing like ocular proof—let "T. F.," therefore, and all who wish to see the triumph of genius and enterprise over great natural difficulties, pay a visit to Mr. Smith, and some of his "intelligent neighbours." To all farmers of strong clay land, I would say very confidently, that they cannot fail to be both gratified and well paid for their trouble.

I have several times spoken of "*strong clay land*," but I would not be understood as considering Mr. Smith's estate to answer that description. As far as I could judge, it is not nearly so "strong," or tenacious, either in its soil, or subsoil, as much that might be found in this county, and indeed in many other English counties; but it is nevertheless quite evident that a most astonishing "improvement" has been effected by the application of a new principle in farming—a principle of which no proprietor of cold clay land should remain ignorant. I would add more, but other engagements press, I must therefore conclude by expressing a hope that the attention of the agricultural public may be drawn to this important subject; and that other large landed proprietors may be induced to follow the example of J. E. Denison, Esq., whose agent I have the honour to be,

I am, Sir, your obedient servant,

J. WEST.

TO THE EDITOR OF THE SUSSEX ADVERTISER.

SIR,—At the Lewes Cattle Show I observe that the Earl of Chichester offered a premium of 10*l*, and left it to the Judges to decide what might be the most useful object of competition; and at the conclusion of the re-

port of the Agricultural Society's great annual meeting on the 7th of October, as stated in their 35th Quarterly Journal, it is said "It would be very desirable to ascertain what breed of oxen are brought the *soonest to maturity*, and possess the most *valuable points*; and there is no method of ascertaining facts so easily and satisfactorily as a competition of the premium oxen from each class; and in judging the prize let the most perfect animal obtain this second and highest premium irrespective of its actual size and weight." Such a competition would tend more than any other to distribute the best breed of cattle throughout the country.

In Mr. C. Shaw Lefevre's letter to his constituents on the subject of the agricultural committee, of which he was chairman, it is observed:—"Nothing can be more fruitless than to ascertain what may be considered a remunerating price to the farmer, every thing depends on his *skill*, and let it not be supposed it is for the interest of the farmer that the price should be very high, it is more important that the price should be as steady as possible, and that the labouring class should be abundantly supplied with the first necessary of life, insuring as this must do a lower rate of wages and a better rate of profit both to agriculturists and manufacturers, whose interests are indissoluble. As a practical farmer I entertain no gloomy anticipations for the future, as the remedy is within their own power by industry and good management." J. S.

REAPING MACHINE.—As whatever tends to lessen the cost of production of bread is worthy of attention from the agriculturist, permit me to call your attention to a reaping machine, the invention of a gentleman in Stirlingshire, Scotland, and which might be used with advantage in Devonshire, as from the mode of farming generally practised, the fields are laid down in a way particularly well adapted for its operation. The machine is of a very simple construction, and the fact of its having been used to advantage, effecting a considerable saving both of time and expense to the farmer in the cutting down of his crops, is the best proof of its answering the purpose. It is worked by two horses, attached by means of a pole, similar to that of a coach or carriage, but with this difference, that the machine goes before the horses, and will with ease cut down from twelve to fourteen acres of crop in ten hours, laying it down in a swathe as done by the scythe, and cutting the grain much more close and evenly than can be done by any other means. From a description of it but a very indifferent idea can be formed of its construction. Having been politely furnished with a drawing by a gentleman in the county of Lanark, who has had one erected this last harvest, I shall take pleasure in showing it to any gentleman or agriculturist who may wish to see it. Seeing what astonishing effects have been produced in the manufacturing world by means of machinery, may we not suppose that wherever similar means can be applied to the purposes of agriculture, similar results may be expected. G. D.

THE MUSK-RAT.—The *fiber zibethicus*, or muskrat, builds a small conical house with a mixture of clay and earth, which it raises on the mud of the marshes, and frequently upon the surface of the ice. It sometimes, however, spares itself that trouble, by inhabiting the same lodge with the beaver, which it very much resembles in many respects, but particularly in its fur. It has a long tapering tail, flattened from side to side, with which it steers itself. The house covers a hole in the ice, which permits the animals to go into the water in search of the roots on which they feed. In severe winters, when the small lakes are frozen to the bottom, and they cannot procure their usual food, they prey upon each other. The musk-rat is very prolific, producing three litters in a season, and breeds at a very early age. Nearly half a million of their skins are imported annually by the Hudson's Bay Company, which are bought up by the hat-makers, and substituted for beaver skins, although very inferior in quality.—*King's Narrative*.

OPERATION OF THE TITHE ACT.

At a parochial meeting in the vestry-room of the church of Addington, in Surrey, for the purpose of commuting the tithes of Addington parish into a rent-charge, under the late act. There were present, among others, the Rev. John Collinson Bisset, the vicar; his Grace the Archbishop of Canterbury (the patron, and a large landowner), by his agent, Mr. W. Drummond; Mr. S. Norman Cowley, by the same agent; Mr. A. F. W. Hoffman, by the same agent; Mr. Leader, by his agent, Mr. Walford; Mr. Cator, by his agent, Mr. J. Foakes; Mr. H. Davis, Mr. Bathe, Mr. W. Fuller, and others.

Mr. Foakes was requested to take the chair. He forthwith ascertained from the poor-rate that the interest of the Archbishop of Canterbury was sufficient to enable him to call the meeting.

The VICAR then stated, that believing the commutation of tithes to be calculated to obviate differences between a clergyman and his parishioners, he had felt a desire to adopt it as soon as practicable.

Mr. DRUMMOND said, that it appeared to him that this was a parish in which a voluntary commutation could be effected with much less expense than the compulsory one provided by the Tithe Act, inasmuch as the landowners could in a voluntary commutation appoint their own surveyors and valuers, and, if expedient, agree with them previously as to the terms; and they could also avoid the expense of valuing, commuting, and apportioning the great tithes because these (being inappropriate, and belonging to the same parties who owned the land) might be merged in the inheritance, and the apportionment would have to be made of the vicarial tithes only. It seemed, therefore, clear that it was to the advantage of the landowners to commute under the voluntary process. He thought, too, that the proposal he was about to make on behalf of the vicar would be an additional inducement to the adoption of that plan.

Mr. DAVIS asked if any one was prepared to say to what particular articles of tithe the vicar was entitled.

Mr. DRUMMOND said he was as yet unable to specify the particular articles accurately, since no endowment or terrier had been as yet discovered. All he could say was that Addington was a vicarage, and as such under the general law would be entitled to the tithe of all the annual increase of the land, except corn, grain, hay, wood, and pulse; but that he was inclined to think that this vicarage was endowed with the tithe of wood. Among the papers of former incumbents there appeared traces of this. He thought this inquiry, however, not absolutely essential, since there was another criterion by which the rent-charge could be more easily calculated. In the year 1813, during the incumbency of Mr. Todd, Mr. Bisset's predecessor, an agreement was made "in pursuance of the deliberation at the vestry," and the sum of 210*l* per annum was agreed to be paid for 14 years, "clear of all deductions, rates, taxes, and demands whatsoever." And in the year 1821, during the present vicar's incumbency, a similar sum was made payable by the parish for seven years in the same manner, clear of all outgoings, and this agreement had never been altered.

Mr. WALFORD asked whether the vicar had actually received this sum per annum during the last seven years?

The VICAR said, he had made some deductions, but he could say that none of them were made by him on the ground of the composition being excessive; that now and then a farmer would come and request him to take 5*l* or 10*l* less, or that otherwise he wished him to take the tithe in kind; he could not bear this, and so he reduced it. Then one gentleman (Mr. Alexander, of Wickham-park) he thought was too low, but he subscribed liberally to the charity-school, and so he (the vicar) did not like to raise him. His actual net receipts for the last seven years, were—1829, 198*l*; 1830, 194*l* 7*s*; 1831, 189*l* 11*s*; 1832, 191*l*; 1833, 196*l*; 1834, 196*l*; and 1835, 186*l* 12*s*. Average, 193*l*.

Mr. DAVIS said, he believed all the deductions were on the score of excess in the amount of composition;

but he wished to know the amount proposed by the vicar.

Mr. DRUMMOND said, that these agreements appeared to him to form the simplest and fairest basis for fixing the amount of rent-charge. If the vicarial tithe was worth 210*l* in 1813, and also in 1821, it must undoubtedly be worth more now, for perhaps no parish had been so much improved as Addington within that time. Almost every house, except the cottages in the street, had been converted from insignificant farm-houses to splendid residences; waste and unprofitable land had been cultivated; the Archbishop's residence had been much improved, and the titheable quality of all the property increased; and he was sure he was making a liberal offer when he expressed the willingness of the vicar to fix the rent-charge at 210*l*, and to this he (Mr. Drummond) assented on the part of the landowners for whom he appeared.

Mr. WALFORD said he was concerned for Mr. Leader, the owner of Spring-park, and Mr. Davis, the lessee, had given him notice that he should not pay the rent-charge commuted. The consequence was that the landlord must pay it, and stand in the vicar's place as to the recovery of the tithe, which, unless he knew the particular articles titheable, would render a taking in kind very difficult; and he should, therefore, dissent from the proposed rent-charge.

Mr. DAVIS said, that when 210*l* was agreed to be paid corn was at a much higher average than at present; that the actual receipt, not the agreed sum, must be the guide, but that the received sum was in his opinion too high; that he had hitherto paid his composition out of respect to the vicar, and should probably have continued to do so during the vicar's life, but if a permanent rent-charge was to be fixed on the land, he thought it ought to be done fairly. The parish contained upwards of 4,000 acres, and at 200*l* it was 1*s* an acre, which for a parish in which there were large tracts of waste was twice as much as it ought to be. He would appeal to Mr. Foakes's experience if this was not so.

Mr. FOAKES said it was too general a method of calculating small tithe, which depended so much on the articles grown and kept. But he should say 6*d* an acre too little. In a parish in Essex, where he collected the tithe, it was between 9*d* and 1*s*.

Mr. DAVIS said, he saw his landlord, Mr. Leader, would be outvoted, and compelled to pay the rent-charge, for Mr. Drummond had the power of voting for two-thirds of the parish, within 60*l*, but he should certainly object to pay his apportionment. He doubted whether Addington was a vicarage. It having been monastic property, and afterwards the property of one individual, such individual was bound to pay a stipend to the minister; and the payments, since the parish had been divided, were more in the nature of a subscription, or stipendiary curate's pay, than vicarial tithe; and he thought it was by no means becoming in the Archbishop, being patron, to vote or attend by his agent at this meeting.

Mr. DRUMMOND said, that it could easily be proved that Addington was a vicarage, and not a curacy; but the present was not the proper opportunity; that it was true he had been authorised to vote for Mr. Hoffmann and Mr. Cowley, as well as for the Archbishop; but surely those landowners were as much interested as Mr. Davis's landlord, or any other landowners. And as to the Archbishop's not attending and not voting, he submitted that it was his duty, as patron and landowner, not in his own right, but acting for his successors, as well as himself, where he thought a moderate and fair sum claimed by the incumbent, and sanctioned by the principal landowners and tithe-payers, to give his sanction to such a claim. As, however, it appeared that one landowner, Mr. Leader, at present objected, and as a few others were neutral, he wished the matter to be properly considered, and he therefore proposed a resolution, that the meeting adjourn for the present, according to the direction of the act, to give the parties interested time for consideration.

This resolution was carried, and the chairman signed the form of notice of adjournment for Saturday, the 28th of January, at the Greyhound Inn, Croydon, at 11 o'clock.

TITHE COMMUTATION MEETING.

On Tuesday, Dec. 20, a meeting was held in the parish of Sawton, near Exeter, convened by the landowners of the said parish, for the purpose of making an agreement with their Rector, the venerable Archdeacon Barnes, for the Commutation of Tithes. John Garratt, Esq., of Bishop's Court, the principal landowner, John Lee Lee, Esq., M. P., and eight other gentlemen attended; with Mr. R. Barnes, the Rector's solicitor, and Mr. H. James, solicitor on their part. After it had been ascertained that the landowners present had an interest in above nine-tenths of the parish, the Chairman (Mr. Garratt) proceeded to state, that they were met under the Act of Parliament to know if their Rector was satisfied with what he had hitherto received, or would explain his wishes as to a voluntary commutation.

The Rector then addressed the meeting in a very lucid and temperate speech, showing, that as the contemplated agreement was one which, when once made, would be perpetual, he must take care not to lose sight of the provision which this endowment offered, not more for the benefit of the Rector than the parishioners; that tithes comprehended all improvement—but that, after this commutation, there could be no improvement; that although the legislature had determined that at the end of two years there should be a compulsory process, yet in the meantime it authorised a voluntary agreement for the commutation of tithes, and till then there was no prescribed method or rule of calculation, but that the average amount of compositions for the last seven years would be held as the basis for a permanent commutation, with the power of increasing 20 per cent. to make it nearer the value. Since he had been rector, which was from 1820, he had made no valuation of the lands or tithes of the parish; he had made even deductions in many instances, and very seldom an augmentation of the tithes. The Ven. Archdeacon then entered into some calculations, to show that, taking the parish to be 1,050 acres, (it was admitted to be 1,100) the tithes would be worth by these methods of calculation, from 300l to 370l per annum.

Take the parish to consist of 700 acres arable—two-fifths annually in corn, 300 acres meadow and pasture,—50 acres orchard.

The Tenth.
£ s. d.

140 acres wheat, 20 bushels per acre, at 7s 6d.....	105	0	0
140 acres barley, 28 bushels per acre, at 4s 6d.....	88	0	0
150 acres hay, 7 scams per acre, at 10s..	52	10	0
20 acres potatoes, 100 bags per acre, at 2s 6d.....	25	0	0
1000 fleeces at 7s.....	35	0	0
1000 lambs at 7s.....	35	0	0
Agistments, milk, calves, and all other small tithes.....	50	0	0
50 acres orchards, 700 hogsheads.....	52	10	0
	443	0	0
Deduct expenses of collection (besides straw) one-fifth.....	89	0	0

Thus the tithes upon a moderate calculation, would be worth clear 354l per year.

He would then take them as they would be reckoned for an inclosure—he believed he was some-

thing understating the average portion of land usually given under inclosure Acts, in saying that they were one-fifth of the arable, and one-eighth of the meadow, pasture, and other land.

Take 700 acres of arable, one-fifth is .. 140 Acres
350 acres of pasture, one-eighth is 45

Making 185 acres at 40s per acre, which would give a rent of 370l a-year. Taking the tithe in another way, the usual mode in this county, he was sure he was not stating too high a sum when he said 3s in the pound. He would take 1,050 acres at something less than 40s per acre, say 2,000l, and the composition at 3s in the pound would be 300l. Thus he had, in various ways, he thought, proved that the tithes, on the most moderate mode of calculating their value, would be equal to 300l a-year. Now, his first compositions had been 230l per annum; but for the last seven years had averaged 220l; he did not think, however, that such composition should be taken as the basis of a permanent commutation, for it would injure the endowment to make them so. He did not, however, ask them to increase, but only not to diminish the endowment of the Church. He wished them to consider how far the contemplated legislative enactments, with regard to pluralities and non-residence, would diminish the income of a future rector of this parish; and that as his income would hereafter be spent amongst them, he thought it was not their interest to ask him to take less than the sum he was about to propose, viz., 300l.

On this request of their rector the landowners deliberated, the rector in the meanwhile, retiring; but shortly afterwards, the Chairman stated that, taking every thing into consideration, they could not accept the offer which had been made to them by the Ven. Archdeacon, but offered the sum of 260l as an annual rent-charge in lieu of tithes.

The Rector expressed his disappointment at this proposition, and regret that the landowners did not more nearly accord with his view, but after some consultation, stated that if they would make it 265l, which was just the 20 per cent. above the 220l, he would propose it to his patron (the Bishop.)

After some discussion, the Chairman, in a complimentary manner to the rector, and expressive of his own feeling, stated that the meeting would give 264l, which the Rector said he would submit to the approbation of the Patron, whom he must consult.

The meeting then adjourned to Friday, the 27th of January, to receive the rector's reply, and for further proceedings.

TITHE COMMUTATION ACT.

CORN AVERAGES.

(From Friday's Gazette.)

Return, stating what has been, during seven years ending on the Thursday next before Christmas Day, 1836, the average price of an imperial bushel of British wheat, barley, and oats, computed from the weekly averages of the corn returns. Published pursuant to an Act, passed in the 6th and 7th year of the reign of his present Majesty, intitled—An Act for the Commutation of Tithes in England and Wales:—Wheat, 6s 8½d; barley, 3s 11½d; Oats, 2s 9d.

WILLIAM JACOB,
Comptroller of Corn Returns.

Board of Trade, Corn Department.

TITHE COMMUTATION ACT.—Table and rule for cal-
L

calculating the fixed corn rent charge and the yearly payment.

TABLE.

Gross average Value.	Substituted <i>Wheat.</i>	Substituted <i>Barley.</i>	Rent Charge in qrs.	<i>Oats.</i>
£1000 ..	118-518	209-973	..	303-0303
500 ..	59-259	104-986	..	151-5151
400 ..	47-407	83-989	..	121-2121
300 ..	35-555	62-992	..	90-90
200 ..	23-703	41-994	..	60-60
100 ..	11-851	20-997	..	30-30
90 ..	10-666	18-897	..	27-27
80 ..	9-481	16-798	..	24-24
70 ..	8-296	14-698	..	21-21
60 ..	7-111	12-598	..	18-18
50 ..	5-925	10-499	..	15-15
40 ..	4-740	8-399	..	12-12
30 ..	3-555	6-299	..	9-09
20 ..	2-370	4-199	..	6-06
10 ..	1-151	2-099	..	3-03
9 ..	1-066	1-889	..	2-72
8 ..	948	1-679	..	2-42
7 ..	829	1-469	..	2-12
6 ..	711	1-260	..	1-81
5 ..	592	1-050	..	1-51
4 ..	474	840	..	1-21
3 ..	355	630	..	9
2 ..	237	420	..	6
1 ..	118	210	..	3
10s. ..	059	105	..	15
5s. ..	029	025	..	07

Rule.—The first or gross average value being fixed agreeably to the act; the table gives the quantity of corn of each kind which is to be deemed in future the corn rent charge, the value of which at the averages of the next preceding 7 years is to be paid; and the sum to be paid in any future year in respect of such rent charge, will be ascertained by multiplying each quantity of corn by its respective average.

Examples.—Parochial value for the present year, 368l; and apportioned value for a particular farm 27l 5s. Average of seven years, ending Christmas, 1835—Wheat, 56s 3d; barley, 31s 9d; and oats, 22s.

By reference to the table, the quantities forming the future fixed charge will be—

Parish, 300	<i>Wheat.</i>	<i>Barley.</i>	<i>Oats.</i>
60	35-555	62-992	90-90
8	7-111	12-598	18-18
	948	1-679	2-42
	43-614	77-268	111-5

Farm, £30 X £7 X 5.—3-228 .. 5-710 .. 8-27

To calculate the amount to be paid in 1837, assume the average of the seven years, ending Christmas, 1836, at—Wheat, 61s; barley, 38s; and oats, 23s 3d.

The following will then show the amount for the

Parish, 43-614	Wheat at 61s	Barley at 38s	Oats at 23s 3d
77-268	..	146 16 2	129 12 5
111-5

Total rent charge, 1837. .. £409 9 0

In the same way, the payment of the farm will be found 30l 4s 0½d.

COMMUTATION OF TITHES.—On the 21st instant an adjourned meeting of the landowners and tithe-owners of the parish of Enmore, Somerset, was held at the vestry room in that parish, for the purpose of entering into an engagement for payment of a rent-charge in lieu of all the great and small tithes of the parish, pursuant to the provisions contained in the Act of Parliament. Nearly the whole of the landowners were present, and Gabriel S. Poole, Esq., solicitor, of Bridgewater attended on behalf of the Rector, and Nicholas Broadmead, Esq., solicitor, Laugport, on behalf of the proprietors of land. Terms were agreed on to the satisfaction of all parties, and the agreement was finally settled by the rector and landowners possessing considerably more than the requisite interest.

ODE TO BEER.

(From the Comic Almanack for 1837.)

Hail, Beer!
 In all thy forms of Porter, Stingo, Stout,
 Swipes, Double-X, Ale, Heavy, Out-and-out,
 Most dear,
 Hail! thou that mak'st man's heart as big as Jove's!
 Of Ceres' gifts the best!
 That furnishest
 A cure for all our griefs: a barn for all our—loaves!
 Oh! Sir John Barleycorn, thou glorious Knight of
 Malt-a!
 May thy fame never alter!
 Great Britain's Bacchus! pardon all our failings,
 And with thy ale ease all our ailings!
 I've emptied many a barrel in my time; and may be
 Shall empty many more
 Before
 O'er Styx I sail;
 Ev'n when an infant I was fond of Ale:
 A sort of Ale-y Baby.
 And still I love it, spite the jibes and jokes
 Of wineing folks.
 For Stout I've stouly fought for many a year;
 For Ale I'll fight till I'm laid on my bier.
 October! oh, intoxicating name! no drink
 That e'er was made on earth can match with thee?
 Of best French Brandy in the Palais Royal
 I've emptied many a phial;
 And think
 That Double-X beats O-D-V.
 On thy banks, Rhine,
 I've drank such Wine
 As Bacchus' self might well unsober;
 But oh, Johannisberg! thy beams are shorn
 By our John Barleycorn:
 And Hock is not Hock-tober!
 As for the rest, Cape, Claret, Calcavella,
 They are but "leather and prunella,"
 Stale, flat, and musty,
 By thy side, Ale!
 Imperial Tokay
 Itself gives way;
 Sherry turns pale,
 And Port grows crusty.
 Rum, Whiskey, Hollands, seem so much sour crout;
 And Hodge's Mountain Dew turns out
 A mere Hodge-
 Podge.
 Of bishops ev'n, godwot!
 I don't much like the flavour:
 Politically speaking, (but then, politics are not
 My trade,)
 Exception should be made
 In Doctor Malt-by's favour.
 In vino veritas, they say: but that's a fable—
 A most egregious blunder.
 I've been at many a wine-bibbing ere now;
 And vow,
 For one that told the truth across the table,
 I've seen a dozen lying under.
 Besides, as old Sam Johnson said once, I've no patience
 With men who never tell the sober truth
 But when they're drunk, and a'n't to be believed, forsooth
 Except in their lie-bations.
 Oh! do not think—you who these praises hear—
 Don't think my muse be-mus'd with beer!
 Nor that in speaking thus my pleasure,
 I go beyond beer measure.
 Would I had lived in days of good Queen Bet,
 And her brave *dejeuners a la fourchette!*
 No days were e'er like hers,
 At whose gay board were seen to join,
 Those two surpassing sirs,
 Sir John and fam'd Sir-Ioin.
 But stay!
 It's time to end this lay;
 Though I could go on rhyming for a year
 (And think it sport)
 In praise of Beer,
 But many folks, I know, like something short.

MR. MILBURN ON THE FAILURE OF THE TURNIP CROP, IN ANSWER TO S. P. G.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—I was pleased with your correspondent S. P. G.'s reply to my last, because he has written it in the manner of a philosophic enquirer after truth, and as the attainment of it is my only object, I am glad in having an opportunity of thus further proving the correctness of my opinions, as to the aphid being a cause of the failure of the crop. Whatever he may say about occupying your space, I feel assured that you will be glad to offer your columns to the discussion of a subject of so much importance to the farmers, and in which they are so deeply interested, as no matter how the subject is decided, it must add to our general stock of knowledge.

S. P. G. enters more fully into an explanation of his views, and states, that the incongeniality of the weather destroyed the plants; decomposition succeeded, and the aphides came to carry off the putrified vegetable matter. That the plants, or part of the plants, did decompose in the neighbourhood of Mansfield, we are bound to believe, but the question is, did that decomposition take place *before* the attack of the aphides, or *after* it? Your correspondent declares that it commenced before, that not a fly or louse could then be detected, and to show this, he says, "they are certainly of *sufficient magnitude*, that I should have seen them had they been there." Now, I think this is quite sufficient to prove that *they were there*, and unobserved by him; for S. P. G. is evidently unacquainted with them in the early stages of their existence, from his making the above declaration respecting that minute insect, as it at first appears. The aphid when at its largest size, is often passed over by persons when their attention is not immediately called to them; how small then must their young be, when just emerged from the eggs, or when just brought forth, the insect being both oviparous and viviparous; it was with the utmost difficulty that I could discover some with the naked eye, even when searching for them.

But this is not the only evidence we have that your correspondent is mistaken in asserting that the decomposition had taken place before the insects commenced their depredations. In his interesting article, dated Sep. 21, he says "many fields within my observation, that appeared as *fine plants as ever nature produced*, have been attacked by the smother-fly and completely destroyed; thus we see this year, the turnips have had nothing but enemies to contend with." Here he mentions the insect as *destroying the plant*, and says not a word of any decomposition. Now, that the plants were diseased before they were infested with the aphides I have no doubt, but their attacks would only more easily destroy them, for if they deprived them of but a small quantity of their juices, they must be less able to resist the incongeniality of the weather, especially drought and cold.

If, therefore, I can establish the position, that they naturally feed on the healthy juices, it is sufficient to prove my theory, and establish the fact that they were a cause of the failure. S. P. G., however, mistakes my meaning, or misquotes my words, when he declares, "Mr. Milburn states that the flies feed on the healthy juices only;" now, I asserted that they *naturally* feed on them, but it must be evident that so many of them sucking the sap from a plant must soon exhaust it, and cause it to present a sickly and drooping appearance, and then of course they must *from necessity*, feed on the juices more or less diseased. A sheep when deprived of its rich pasture, may eat up moss or rushes, not because they are their natural food, but because its supply had failed. He asks, "why did they not leave the diseased plants and attack the healthy ones?" Simply because of its still habits; the leaf on which it is brought forth, will not be quitted so long as a drop of juice exists in it, especially in dull and cold weather, and their frail bodies are evidently unfitted to travel

further than their native plants. In the winged state, however, previous to dissolution they take quite another character, and leaving the plants assemble in towns, &c., but then they have ceased to feed. So still are their habits, that Huber found a number of them collected by ants into their nests for the purpose of obtaining their saccharine secretion, popularly called "honey dew," on which they feed, and on his opening the hill, the ants ran off with the aphides in their mouths. From this circumstance Linnæus called them the "milk cattle of the ants." I repeat that S. P. G. has just reversed the order of things; their effects are seen on sickly plants, they droop their leaves, and their juices are soon gone. Plants in sheltered situations are passed over by the parent insect in depositing her eggs, and from having no insects upon them, added to their protection from the weather, they are healthy.

In proof that they feed on the juices of the plant, and do not naturally exist on putridity, it might only be necessary to quote the opinions of such devoted and accurate naturalists as Leeuwenhoek, Bonnet, Professor Rennie, and Mr. Knapp, the former of which calls them "the pest of the garden;" but one fact is worth a thousand opinions. The very appearance of the insect proclaims that it is intended to sip the liquid juice. Its fine hair-like sucker, generally longer than its body, shews that it is unfit to revel in putrescency, or suck any "slimy mucus." It is a well known fact that the aphid by sucking one side of a plant, causes it to curl in a spiral form, and to contract the leaves together for its protection, as I have seen in scores of instances, in the currant bushes, beautiful and healthy as they generally were.

S. P. G. endeavours to overturn my reference to the geranium, which became infested, by being out of doors. He attributes its attack as the consequence of the night air, to which it was exposed. Its happening in summer (July), however, secured it from any great chillness, and the reason why my other plants were not attacked, was, only because they were never exposed to the air at all! It was, however, never "decomposed," and if S. P. G. be correct, the insect is dependent on putrescency for its existence. He, however, says nothing to the principal fact which I stated, that after casting its old leaves it is now healthy and green, and yet there are perhaps fifty aphides upon it, although had they been more numerous, or if I allow them to remain sufficiently long upon it, they will doubtless affect it. One of the leaves has particles of "slimy mucus" (honey dew), the excrements of the insects upon it, but there is not even the most remote traces of incipient decomposition upon it, though had the leaf been in a dying state, I might have mistaken it for it. In proof that the assertion is correct respecting their ejecting the "honey dew," I need only mention, that having an apple tree, a Ribston pippin, which has been infested for several years with this insect, vulgarly called "American blight," (*Aphis lunata*.) I went yesterday and removed a part of the cutis, when I discovered three aphides, and at the same moment one ejected a minute drop of the glutinous liquid. Probably S. P. G.'s name of the insect "smother-fly," originated in an idea that this liquid stopped the pores of the plant (smothered it), an idea by no means uncommon. Now, in referring to apple trees, the insect introduces its sucker, (*haustellum*), into the epidermis, and then sucks its juices; the sap afterwards exudes, and little excrescences are formed on the tree. Now will S. P. G. say that the tree was in a state of decomposition and putrescency, or that they were feeding on the same "slimy mucus," the "vegetable gelatine" of this bearing tree, and removing it as a blessing of Providence? The bean crop is sometimes destroyed by the same species of insects, the "bean dolphin," or aphid; and it appears the winter tares in Derbyshire were also infested, but did it ever occur to him, that these also decomposed and putrified?

Now, if anything can convince S. P. G., or if he can overturn these *strong facts*, he is bound to own the one or the other, and until he does, no one can suppose that "had no aphides appeared, the failure would not

have been less;" or in other words, that *the aphides did no real injury to the crop!* He may call my arguments nullities, but until he overturns these *facts*, the probabilities in favour of his theory are done away. I repeat I should be thankful to be shown I am wrong, and S. P. G. will, if he shows it, not only enlighten the farmers and hop growers, and save a great deal of trouble and expense in destroying the aphides, but overturn the observations of the most profound naturalists.

Your's respectfully,

M. M. MILBURN.

Thorpefield, near Thirsk, Yorkshire, Dec. 23.

BURNING THE BUSH.

On the 1st of January, in that part of Herefordshire contiguous to Leominster, the men attached to each farm procure a long pole, which they bind with straw all the way up, and place on the highest ground of the farm; a large truss of straw is fixed on the summit, and several trusses at the lower end; for this purpose barley straw is generally employed, it being less combustible than that of wheat. The straw is then kindled, and the men regale themselves with cider and cakes; a Hawthorn bush is afterwards cut, which having singed in the fire, they return home, taking the bush to the farm-house, where it is given to the master, who hangs it up in the kitchen; more cider is distributed among the men, and the bush remains till the following year, when it is replaced by a new one, the old bush being destroyed. The early hour of five in the morning is usually chosen for the ceremony, and the day is enjoyed as a holiday.

On every farm on Twelfth-eve, the farmer, his friends, and servants assemble and proceed to a field of wheat, where twelve fires are lighted on twelve ridges of wheat the thirteenth, and largest, being kindled on the highest ground. The attendants, whose numbers sometimes exceed 40, headed by the master of the family, pledge the company in cider, which circulates very freely. The men at intervals shout the name of the master, with the addition of "for ever," and "huzza," which is responded to by similar shouting and hallooing, indeed by the like occasion on other farms. It is considered unlucky if this ceremony is omitted.

Previous to Twelfth-eve, the mistress of the house prepares a number of flat cakes about the size of two-penny breakfast cakes, each having a hole in the centre—these are taken by the servants and visitors to the stalls where the oxen are kept; they also provide themselves with a pail of cider and a number of glasses and jugs. A cake is then placed on one of the horns of the first or finest ox, when each man fills his glass and says—

"Here's to thee, Brown Boy, with thy lily-white horn,
Pray God send thy master a good crop of corn;
Both wheat, rye, and barley, and all sorts of grain,
And if I live till this time twelvemonth, I'll drink to thee again."

A small quantity of cider is thrown from one of the glasses up the nostrils of the ox, which makes it snort, and throw the cake from its horn. If the cake falls in front of the animal, it belongs to the man who drives the ox; but if behind, it is the perquisite of the boy who attends the team. This is repeated with every ox, and it is a common trick for the boy to prick the animal with a pin just as the cider is thrown, to make it turn round, and jerk the cake back, so that he may obtain it.

When this is concluded with every ox, the party adjourn to the cow-house, where similar proceedings take place with regard to the cows, except that the dairymaid and the cow-boy receive the cake respectively as they fall before or behind the animal. The master and mistress of the house are present, and the whole concludes by drinking their healths. These ceremonies usually succeed the 13 fires.

PERTSHIRE AGRICULTURAL ASSOCIATION.

PRESENTATION OF PLATE TO THE SECRETARY.

Upwards of 60 of the members of this association dined together in the George Inn on Friday, Nov. 25, as a mark of respect for Archibald Turnbull, Esq., their Honorary Secretary, and in testimony of the estimation in which they hold his valuable services to this useful and flourishing institution. Viscount Stormont did the duties of the chair with his usual ability and politeness, in which he was supported on the right and left by Mr. Smythe of Methven, Mr. Cragie of Glendoick, Mr. Wright of Lawton, Mr. Hunter of Auchterarder, Mr. Turnbull, the Secretary, &c., &c. Mr. Hunter of Glencarse, and Mr. Duncan Cargill, acted as croupiers.

The Noble Chairman having proposed as toasts—"The King"—"The Queen"—"The Princess Victoria and Royal Family"—"The Army and Navy"—"The Lord Lieutenant"—"The members for the City and County"—which were drunk with all the honours.

His Lordship again rose and spoke to the following effect:—Gentlemen, the toast which I am now about to propose is the prosperity of the Agricultural Association of Perthshire. It must be gratifying to us all to learn, from the extensive list of premiums announced for the ensuing spring competition, the flourishing state of the Society's funds, and the rapid increase of its members, that this highly useful institution is at once prosperous and progressing. That it is eminently advantageous to the district is felt and acknowledged by every farmer in it; and I have heard strangers who visited the late great cattle show in this place, attribute the superior excellence of the district stock to the stimulus given by our association. It gives me pleasure also to think that the condition of the agriculturists, whose interests the society promotes, and for whose advancement it was instituted, is in a corresponding state of improvement; for to use a familiar, but very expressive phrase, things are decidedly looking up. Gentlemen, I can truly say that it is my most earnest wish that the prosperity of the society may be as continuous as its objects are patriotic; and I now call on you to join me in drinking to its success.

This toast having been received with all the honours, his Lordship again addressed the meeting nearly in the following terms:—Gentlemen, after drinking to the prosperity of our society, it now becomes my pleasing duty to advert to the eminent services of one of its most active members and most efficient office-bearers. In all institutions of the kind it is necessary that they not only be well organized at the outset, but the business of the society requires that punctual attention in all its details without which its affairs would fall into confusion, and its usefulness, if not destroyed, would be materially impaired. Gentlemen, in Mr. Turnbull, your Honorary Secretary and Treasurer, the society has found a gentleman who has fulfilled the duties of these offices in a manner which commands the unanimous approbation of its members. To the ability, the zeal, and the business habits which he has uniformly displayed in conducting the society's affairs, you will all join me in saying, is, in a great measure, to be ascribed the flourishing condition in which the institution now is. Gentlemen, that these your sentiments may be the more emphatically and publicly expressed, it falls to me as your chairman, to convey them to Mr. Turnbull on this occasion; and in token of the esteem and respect with which he is regarded by

the members of this society, I have now, in their behalf, the great pleasure to present to him this piece of plate, of which I beg his acceptance—with the assurance that it is their earnest hope that he may long enjoy health and happiness to use it, and that it may descend to his family for many generations, who may point to it as a symbol of the esteem in which their ancestor was held by the agriculturists of his country.

Here his Lordship presented Mr. Turnbull with two superb silver claret jugs, of large capacity and elegant workmanship, richly chased and formed from a tasteful antique model, each bearing the following inscription:—

PRESENTED
TO

ARCHIBALD TURNBULL, Esq.,
of Bellwood,

BY THE
PERTSHIRE FARMING ASSOCIATION.

As a mark of their respect for him,
and of their high estimation
of his able assistance as
Honorary Secretary
of the Society.

SEPTEMBER, 1836.

The noble CHAIRMAN then called on the company to fill their glasses to the health of "Mr. Turnbull," which toast was drank with nine times nine.

When the applause had subsided—Mr. Turnbull said—My Lord and Gentlemen—I rise with feelings completely overpowered by the expression of your kindness. Permit me to return my warm and most grateful thanks for this handsome gift, which I accept with the greater pleasure that it is the token of the esteem and respect in which I am held by the members of the Agricultural Association of Perthshire—for allow me to assure you that, splendid as that token is, and highly as I prize it, yet more gratifying to my feelings is it to know that my humble services on their behalf have secured me their friendly sentiments which have been so eloquently tendered by our noble chairman. Gentlemen I again beg you will accept of my warmest thanks, and permit me to drink good health and prosperity to you all.

Mr. MURRAY THRIEPLAND gave the health of the noble Chairman in a very neat and complimentary speech. Many other toasts and sentiments were given and received with all the honours. The company passed the evening in a very happy manner.

EXTRAORDINARY FAT SHEEP.—A wether sheep 32 months old, bred and fed by Mr. Charles Large, of Brodwell, Oxfordshire, was last week slaughtered by Mr. James Cale, of Ledbury and was allowed by the first-rate judges attending Ledbury fair to be by far the best they ever saw. The weight of the four quarters was 272 lbs; the thickness of fat down his chine did vary the eighth of an inch from his rump to his neck. The quality of the meat was equal to any South Down, and the fat was as white as snow. The shoulders fairly cut weighed 39lbs. The following is a correct statement of what his offal made:—

	s.	d.
The Skin sold for	10	0
Head	2	6
Caul and spread for suet, 23lbs, at 8d.	15	4
Gut Fat, 13lbs, at 4d.	4	4

£1 12 2

The kidney was not taken off but was of immense size, more like a Scotch Ox than a Sheep.—The animal never tasted corn or cake, but was fed on roots, grass, and hay.

ON THE CULTIVATION OF WINTER AND SPRING VETCHES.

The great advantages derived by farmers from the cultivation of winter and spring vetches, are not, I believe, questioned by any person. It is an excellent crop for keeping the land clean. From the manner in which the crop overshadows the land, and, thereby secures the surface from the rays of the sun, and from atmospheric influence, weeds of every description are kept down. Vetches can be always cultivated as a *stolen crop*—always admitting the growth of another crop after them, within the year. They improve, instead of deteriorating the soil—particularly soil that is deficient of vegetable matter. They afford excellent food for cattle and horses, at seasons when pasture is bad and hay scarce. Farm horses can be kept in the best conditions, and regularly worked, by giving them plenty of soiled vetches during the summer months. Milch cows also thrive well on soiled vetches, and give more milk on them than they would on the best pasture. Under all these considerations, it is evident, every farmer should have his winter and spring vetches, in regular succession, every year. Where there is a methodical system of house-feeding cattle, all through the year, vetches, followed in succession, cannot be done without. But in any case, it is as profitable a green crop as the farmer can cultivate, particularly when soiled—and the prospect there is of hay being very dear, the ensuing year, renders the sowing of winter and spring vetches a very good speculation to the farmer. It is now late for sowing winter vetches—although, on dry warm soils, if they were sown the first week in November, they would be fit for cutting (if the winter and spring prove favourable) in the middle of May; and they might be succeeded by Swedish and Aberdeen turnips. The proper time for sowing winter vetches, is the middle of September. For the spring sowing, the first ought to be in the middle of January; and, weather be mild, these will be fit for cutting early in June, and may be succeeded by globe or Norfolk turnips. The next spring sowing ought to be early in March—these will be fit for cutting in July, and may be succeeded in August, by transplanted rape. The next sowing should be in the last week in March—or first in April, these will be fit for cutting in August, and may be succeeded by common kale or coleworts, in September. Thus, if the system be managed properly, there may be a regular succession of green feeding kept up, all through the year. The economy of this system in my opinion, cannot be doubted, particularly as far as regards small farmers. But extensive farmers, who would not like to be guided by these minute principles, can sow spring vetches any time from January to March; and, if the soil be poor, by giving it a slight dressing of manure before the vetches, it will ensure a good crop of vetches, and be a capital preparation for a crop of wheat, to be sown in October, after the vetches. If winter vetches were sown in September, they would be off time enough to plant potatoes in their stead, the following May. I have had, for the last two years, potatoes after winter vetches, globe and Norfolk turnips after the first sowing of spring vetches, and I could not desire more abundant crops in every case. The cultivation of vetches, intended for soiling, and that from which the seed is to be saved, differs materially. The soil cannot be too rich and strong for vetches that are intended for soiling, whilst light dry soil answers vetches from which seed is to be saved. From three to four bushels per Irish acre, is sufficient seed on ground where

the seed is to be sowed; four and one-half bushels, and three or four stone of oats, is little enough seed, per Irish acre, for vetches intended to be sowed. The bushel of vetches weighs $4\frac{1}{2}$ stones. The best way to sow winter vetches is to plough the ground in sets, seven or eight feet wide; and after giving each ridge a stroke of the harrow, to level it a little, the seed should be sown and harrowed in; the furrows should then be cleaned with the shovels, and spread evenly over the ridges, that the seed that fell in the furrows when sowing, and what was drawn into them by the harrow, might be spread equally over the ridges: the furrow should then be cut, and shovelled upon the ridges. The best way to sow spring vetches, is (unless the ground be low and wet) to plough the ground in ridges, in November, in order to keep the soil dry, and to pulverize it. When the seed is wanted to be sown, a few scrapes with the plough should be turned into each furrow, and the whole should be then harrowed level; the seeds should be then sown, and ploughed in with a light furrow, leaving no open furrows at all. When vetches are sown in sets or ridges, the ground occupied by the furrows is entirely lost, and the vetches that grow on about a foot on each side of the furrow, will, unavoidably, lie into the furrow; and, thus, there upwards of a foot in length of all that lie into the furrow, completely useless, as it becomes of a brown colour, as if rotten. The rape to succeed the second sowing of vetches, should be sown in June, and transplanted in August, in rows, three feet asunder, and two feet, plant from plant, in the row.—*Correspondent of Irish Farmer's and Gardener's Magazine.*

THE FARMER AT CHRISTMAS.

Christmas is come with hoary locks,
To shelter cattle driving;
Woe to the farmers, with their flocks,
However rich and thriving!

Their post is now no sinecure,
Who have to watch the fold;
The storm and drifting snow to endure,
And winter's piercing cold.

The farmer's province out of doors,
All weathers he must bear;
The cold blockading all his pores—
His lungs, the freezing air!

If corn advances, who is blamed?
The farmer—he alone!
No sympathy for him is claim'd—
For none his plea will own!

Yet 'tis his calling, not his fault,
To deal in corn—what then?
He sells the barley turn'd to malt,
For gain—like other men.

To other trades we are content
To give a profit fair;
As if the farmer only meant
To take the largest share!

But all like passions have, and strive
To serve themselves the best;
Tho' farmers do not always thrive,
Nor overstep the rest.

SENEX.

CLEARING ROADS OF SNOW.

OF THE SYSTEM ADOPTED BY THE ROYAL SAPPERS AND MINERS AT CHATHAM IN CLEARING THE LONDON AND CANTERBURY ROAD IN THAT NEIGHBOURHOOD FROM SNOW.

The sergeants, under the superintendence of the officer on duty, placed the men in extended order, at intervals of 15 feet apart, over the middle of the road upon the drifted snow, in which every man cut a hole with his shovel until he got down to the original roadway, throwing the snow out towards the sides of the road, with sufficient force not to require moving a second time. Commencing in this manner, they prolonged their respective excavations until they all met, forming a continued trench, at first only three or four feet wide, along the middle of the road, which they gradually increased by digging and throwing out more snow, until it attained the width of 9 feet, after which the road thus partially cleared became passable for carriages throughout the whole extent originally occupied by the line of men, each individual cutting out his own portion of 15 feet in length, 9 feet in width, and of a depth varying almost everywhere, but not generally exceeding 7 feet. As soon as the men had finished their portions, they were moved forward in advance, and commenced a new task in the same manner, always cutting out the whole depth at once, which would not have been convenient had it anywhere exceeded seven feet. If the snow lay equally deep on both sides of the road, they threw it out to the right and left, but if this was not the case they threw out most of it on the lowest side. At intervals of about 150 yards they cut broader spaces to admit of two carriages passing each other.

The quantity of snow cleared by each man in a road covered about five feet deep was five cubic yards per hour, or 40 cubic yards in a day's work of eight hours; which they did without being tasked as to quantity, and consequently without any extraordinary exertion. Hence a person, superintending workmen thus employed, may safely calculate upon being able to clear a mile of road, supposed to be covered to the average depth of three feet with drifted snow, to the clear width of nine feet, so as to render it practicable for carriages, by about 140 men, in eight hours.

We considered it useful to state these details, into which we were induced to inquire from having heard it stated, by persons who had seen them at work, that the sappers and miners appeared to make much more progress in proportion to their numbers, than either the other troops or the civil labourers employed at the same time, although all were equally well disposed. The system followed by that corps was on the same principle on which they had been taught to throw up parallels and approaches in a siege, which they practise as a part of their duty on joining the Royal Engineer Establishment at Chatham, always working in extended order, and each man having his individual task. Since clearing out snow is not an every day occurrence, so that the public has not the benefit of experience, as in other kinds of labour, it appeared desirable to make known the best mode of proceeding—namely, that practised by the Royal sappers and miners, which is by extension and individual task work. This is an arrangement which men left to themselves will not adopt, for being naturally gregarious, they will collect and work together, in small parties or groups, which admits of their conversing together, and produces confusion and waste of labour, the same lumps of snow being moved several times instead of being disposed of at one or two throws of the shovel at the utmost; hence with apparently equal diligence, a much less quantity of labour is executed.

Many of the farmers in the neighbourhood of Lewes have suffered in the loss of their stock in the drifts. Mr. R. Verrall of Swanborough, lost several sheep and a valuable horse. Mr. Verrall of Norlington Farm had no less than 40 sheep dug out which had perished in the snow.

TO THE EDITOR OF THE MARK LANE EXPRESS.

In your paper of the 2d inst., I find a person who signs himself "Rusticus," describing a method, or rather an experiment he has made in regard to the turnip fly, to know its origin and effects, and seems, as he thinks, to have found out a prevention, which I think no person can admit except the most insane. In the first place, he says he sowed some seed in a flower pot with earth out of his garden. Did he think that the soil out of his garden would produce the fly in greater abundance than any other soils more contiguous? for he says it produced them in abundance. We are sure that they have been numerous enough elsewhere, and whether garden soils produces the fly in a greater or less degree than other soils I am not able to say, I should rather think that soil which is in the highest state of cultivation, or rather the richest, is the most favourable to support the plant, and while that remains healthy, you need not trouble yourself about the fly, for it will never attack healthy plants. Secondly, he says he inclosed the pot with pasteboard and canvass with the same success, and, as he very properly says, there was still a possibility of their getting in. And thirdly he made a frame so perfectly close as to utterly cut off all communication between the interior and exterior; but he still finds, that though he may have entirely intercepted all intercourse, yet the plants still are attacked. This he considers as a point gained, that if the fly was entirely shut out, and the plant still attacked, that they must have their origin from some other source, and this, so far, was quite right; true they had some other source, but not that which he describes. He goes on to say that he found eggs deposited upon the seed. Now he surely does not think that the world is so silly as to believe him. Every one knows that the turnip is a leguminous plant, and that, while the seed is enveloped within the pod, it is impossible for either fly or any other insect to deposit its egg upon the seed, or to find admission. And that when brought home and thrashed it would be a thing out of all character to think that the fly should attack or deposit its egg in a place so unfavourable to future existence. But does he think that his story will be credited? The cuticle of the turnip seed is so extremely close and smooth as not to allow the smallest particle to adhere to it, at least while the seed is healthy, and if there was any eggs deposited upon the unhealthy seed, they must be great fools indeed that would sow such seed. But I do not see the least foundation for such an opinion. Undoubtedly the seed which he examined was some inferior seed which had become mouldy. And again, as to the preventive which, he says, is to steep it in good strong brine, I should say it is like a chip in porridge, doing neither good nor harm; but I should warn the farmers of Old England against keeping it in too long, as that might destroy the vitality of the seed, but if they keep it in no longer than what he prescribes, they need not be afraid. He is very right when he says that the fly did not come to the turnip from some other plant, that certainly was a point gained, and a great one too, upon which dwell all the foundation of future experiments or opinions. But when he gets so far, he takes the wrong path, and is lost among the mazes of uncertainties, he begins to examine the seed instead of the plant, thereby losing himself in supposition, for he confesses that his preventive is not infallible.

Now the first part of his experiment was of great importance, by precluding the fly he found out that the disease of the plant, and origin of that disease, did

not originate from the ravages of the fly, as is generally supposed. But if an angel from heaven was to tell the generality of the farmers that the fly was not the cause of the disease in the plant, but carrying off the effects of some other cause, they would not believe him. But here they have a proof the fly was totally excluded, and still the plant became diseased, and afterwards attacked, showing that the evil is not in the fly, but in the various causes which affects the growth of the plant. Now, I will tell "Rusticus" what is my opinion upon the subject:—The plant became diseased from a want of a sufficient degree of moisture, light, warmth, and air, as is necessary for the health of the plant. After the plant became diseased the gelatinous parts would begin to separate from the fibrous, and that mucus would transform, or undergo a change similar to what takes place in a putrid carcase, where the flesh-fly has its origin. This, I mean to say, is the first origin of the fly, still this is not the general method of propagation; Providence has so ordered it, that they multiply with an amazing rapidity, according to the quantity of decomposed vegetable matter that may exist upon the face of the earth. There is not a method that can be devised so likely to act as a preventive as to keep the land in the highest state of cultivation, to use every method to keep up the vitality of the plant, and if they are then attacked it arises from the incongeniality of the weather, which we cannot withstand. Alas! poor fly, how many are thine enemies? Thy maker ordained thee to act as a friend to man, but he knoweth it not.—Yours,

Jan. 3, 1837.

S. P. G.

THE LANDED AND TRADING INTERESTS.

By returns printed, by order of the House of Commons, in March, 1816, stating the number of persons employed in agriculture, trades, and professions, assessed to the property tax, it appeared that—

Schedule A land in property paid.....	4,297,247
Schedule B occupiers of land.....	2,176,228
	6,473,475
Schedule D trade only.....	2,000,000
Making a difference in favour of agriculture	4,473,475
	Per-
The occupiers of land under 50 <i>l</i> per annum	sons.
were	114,778
From 50 <i>l</i> to 150 <i>l</i>	432,534
Above 150 <i>l</i>	42,063
	589,374
Persons in trade or profession under 50 <i>l</i> were	100,760
Above 50 <i>l</i> and under 150 <i>l</i>	117,306
From 150 <i>l</i> to 1,000 <i>l</i>	31,128
From 1,000 <i>l</i> and upwards	3,692
	253,686
Occupiers of land	589,374
Persons in trade or profession....	253,686
Majority in favour of the occupiers	335,688

EXTRAORDINARY CROP.—Mr. William Ridsdale, of Barnsley, has just thrashed out a quantity of beans, the produce of six acres, which was grown in a field at Keresforth Hill, near Barnsley, which has yielded about 120 loads, being 20 loads per acre.

AGRICULTURAL REPORTS.

[The immense importance which must attach to a correct knowledge of the quality and quantity of the grain, the produce of the late harvest, to the progress of field operations through the winter and spring, and to the appearance and promise of the wheat plant up to the period of its becoming fit for the sickle in the ensuing harvest will, we feel persuaded, be at all times sufficient apology for postponing other matter in order to supply all possible information upon the above mentioned interesting points. Our pages this month will be found much more filled than usual with agricultural reports, from which useful information may be derived, but we particularly invite attention to a series of valuable reports extracted from the "Irish Farmer's Magazine," and in which the state of the late crops in Ireland, and as much as can as yet be anticipated of future prospects, will be found carefully described.—ED. F. M.]

THE CROPS IN IRELAND.

FROM THE IRISH FARMER'S MAGAZINE FOR JANUARY.

Perhaps at no period for the last twenty years, has such intense anxiety been manifested about the results of the harvest, as within the past two or three months—more contradictory statements circulated, in reference to the quantity and quality of the produce of the soil, both here and in the sister countries.

The exorbitant prices to which every article of human food had attained at the commencement of the winter, together with the dispiriting reports which were received from many parts of the country of the perilous state of the oat and potatoe crop, gave rise to anticipations of so gloomy a character, that many did not hesitate to predict a famine, as extensive and disastrous as that which succeeded the year 1816. Although it needed no argument to convince those who recollected that dreadful season, that such anticipations were pushed beyond the limit which a comparison between the two seasons would warrant, yet we know that well grounded apprehensions were abroad of a scarcity of wholesome food in several districts of this country, which was likely to lead to another call upon the munificence of England: and we felt that to arrive at a correct estimate of the real condition and resources of this country became, in the present unsettled state of public opinion, an object of too much importance to be overlooked. We accordingly, early in the month, availed ourselves of the willing and active agency of the Secretary of the Agricultural Society of Ireland, and through this very respectable channel we are now enabled to lay before our readers the following well authenticated reports from nearly every County in Ireland.

ARMAGH COUNTY.

From the severity of last winter, and the high price of flax, there was very little wheat sown in this county. What was sown has been safely harvested, and is an average crop. Barley was extensively sown. It has been well saved, and is also an average crop. There was not as great a breadth of oats sown this year as usual. The produce has been great—more than an average on good land, and has been safely harvested. In the late districts it has received much injury. The potatoe crop is an ave-

rage one. There are some slight failures, but the quality is not injured by the weather. One-fourth of the crop yet (16th December) remains undug. On account of the severity of the present season there has been little wheat sown. The farmers are inclined to sow a larger breadth than last year, if the weather will permit. Winter fodder, I am gratified to say, is plenty. The farmers have a good supply of turnips and other green food: and I have reason to think fodder will not be scarce in spring.

ANTRIM COUNTY.

Our reports from this county are by no means of a cheering nature. The loss sustained in the potato crop is stated to be alarmingly extensive. Much remains yet undug, and of that portion which has been pitted, although due precaution was used to remove the frost-bitten roots, a great deal has rotted, and affected those which were in contact with them. Pitted or housed potatoes should, therefore, be carefully looked after throughout the winter, and all tainted roots removed, as one infected tuber will spread contagion to all around it. Our latest information in reference to the corn crops is equally disheartening. A great portion of the grain (nearly one-fourth), particularly in the northern districts, then remained uncut. It is feared that the deficiency in the hay and oat crop will occasion a serious loss to the farmer in the keep of his cattle; horned cattle have, besides, been housed fully three weeks earlier than usual, and appear in bad condition. Mangel wurzel and turnips are abundant in tops, but very deficient in roots. Very little wheat is yet sown; a great number of farmers who have their ground ready will be obliged to postpone the operation till the nearer approach of spring.

CORK COUNTY.

There was not so great a breadth of wheat sown the past season as on former ones, the very low price of last year having caused many farmers to sow their tillage with oats; but the crop of this season is considered a good one, and has been safely harvested. The wheat sowing of this district cannot be considered to commence till after Christmas. Barley is not extensively cultivated in this district; for several years past wheat has taken the place of this grain, especially by the sea side, but what is grown is generally very good, though not of very *prime* quality. Oats are grown to a great extent in the inland parts, especially on reclaimed mountain land, where the quality and produce are always good, when properly treated; and considering the unfavourable weather of the past harvest, oats have been well saved, are of good quality, and a full average crop; and in no instance have I seen or heard of a single crop being lost by failing to ripen in a reasonable time. With respect to potatoes, this is a district in which failure beyond a trifling patch never happens; and when the slovenly and wasteful system of growing this crop is considered, there is not perhaps in Ireland a finer potato than this county produces. The crop is generally the most abundant, affording an ample supply for home consumption, and a very large quantity for export. The crop of this year is a very fine one, both in quantity and quality; much of it is yet undug, but has not suffered in conse-

quence. The bulk of the potato digging in this district is always done between the 14th November and 25th December: hitherto the weather has been most unfavourable. Turnips and mangel wurzel are not known among the farmers of this district yet. The winter fodder in general use is hay, potatoes, and chopped furze. The latter is used very generally even among the better classes of farmers, it having been found from experience that it is a far more nutritious article of green food than any other they know, and is even considered beyond hay for horses that are not worked at speed. It is considered good too for milch cattle. It is raised in abundance on ground fit for no other purpose. Of hay, potatoes, and forage, there is an abundance for the people's wants. The potatoes used for cattle are generally the small ones picked from the heap. These observations relate to a district extending from the Mizen Head in the West to Ross Carbery in the East, and from the sea in the South to Bantry and Dunmanway in the North, N. E. and N. W., being a distance of over 40 Irish miles, one way, and over 16 the other.

A valued Correspondent in another district—that of Fermoy—has favoured us with the following communication:—The usual breadth of wheat was not sown in this district. In many instances it was one-fourth less. The crop has been threshing much better than could have been calculated on from the small quantity of straw, and certainly is a fair average of produce on the number of acres sown. In most cases it has been harvested well; samples, however, in many instances are soft. Barley was more extensively sown than wheat, and is in most cases a good crop as to produce. In some instances it was late, and badly harvested, and the samples not of prime colour, but may, in many cases, produce a better quality of malt than could have been expected, considering the rainy season we have had. Oats as to extent of ground cultivated, a full average. I do not consider that it is a good crop, but the quantity sown may in many instances make up for the deficiency. In many cases samples come to hand of a very inferior quality; and the farmers certainly do not do all they ought, to produce the samples in the best order for sale. In this district I do not know of any oats which was not reaped and saved, but, no doubt, in many instances badly saved. Potatoes are a better crop here than in many parts of the country; considerable damage must, however, have arisen from the impossibility of getting them out of the ground in proper time—and in several instances I have heard of the frost having done much injury. There still remains some in the ground, but not to any extent. They were, however, all pitted in a very wet state, and come to market covered with wet earth. How they will keep in this manner remains to be proved. I cannot call to recollection when wheat sowing had been so much retarded as at the present season. Farmers are endeavouring to get it in when the least opportunity offers, but the ground has been so saturated, that any attempt, except in very dry soils, must be injurious. It is difficult to form an opinion as to the proportionate quantity of ground not sown, in comparison with other years, but it must be very considerable. Hay is dearer here than since the war prices, from 4*l* to 4*l* 10*s* per ton, and is decidedly deficient—in Cork market it is 5*l* per ton. Straw is extremely scarce. The quantity of green crops in the county of Cork although increasing, in consequence of the exertions of the County Agricultural Society, and the numerous Societies formed and forming in the county, is by no means what it ought to be: and though several have guarded against a deficient period, by being

supplied with them, yet the large majority are altogether without assistance on this point.

CAVAN COUNTY.

The usual breadth of wheat was not sown last season in this county. The crop is nearly an average as to quantity per acre, and was in general pretty safe'y harvested. Barley was not extensively sown on early soils, but was middlingly well saved. In late districts a considerable portion was got well harvested, but it will prove under an average crop. There was fully the usual extent of oats sown last spring, which promised an abundant crop, but owing to the unfavourable state of the weather, a large proportion of it did not ripen equally, nor was it well saved. There are a few partial spots to be seen uncut on late mountain districts, and several remain yet in the stooks through the county, but not to any great extent.

In Leitrim a considerable quantity of oats remain in the fields—about one-sixth part—which is in a very bad state. There are many partial failures in the potato crop, notwithstanding, they are turning out far better than was expected as to quantity, but are deficient in quality. They are in general soft, and not so good for use as usual. The severe weather has, in many instances, (where the ground was wet) injured them very much. There is about a fourth part remaining undug—and it is feared that a large proportion of what is dug, being taken up in a wet state, will not keep in the potato houses and pits. The want of winter fodder will be severely felt, if the ensuing spring turns out unfavourable. There is a good deal of hay not yet saved, which may be said to be nearly lost—and but a small number of the farmers are provided with turnips or green feeding as a substitute, the want of which I hope will be the means of inducing the farmers in general to a more extensive cultivation of green crops in future. The weather still continues rainy; we have scarcely one dry day.—Turf, that essential article, is getting very scarce and dear.

CLARE COUNTY.

Our report from this county states—that the usual breadth of wheat was not sown last year, but where sown it may be considered an average crop. Barley was extensively sown. It was much injured in quality before being stacked, from the heavy rains. Oats were also extensively sown. The early crop was well saved, but the late crop will do little more than pay for the expense of saving it—but little remains uncut; and from the great breadth sown a tolerable supply is calculated on. The potato crop is an abundant one, but the quality has been greatly injured by the late rains, and much yet remains undug. Sowing of wheat has been greatly retarded. Winter fodder is very scarce.

CARLOW COUNTY.

The breadth of wheat sown in this county last year was less by from one-third to one-fourth than that of the two previous years—and although the crop suffered much from the extreme severity of the early part of the season, and appeared thin, yet the ear was good and well filled, and the produce per acre rather more than usual—but in a great many instances the crop was badly harvested. The millers complain that a great many of the samples offered for sale contain sprouted grains. It may however, be considered an average crop. A larger breadth of barley than usual was sown this year, which, however,

ripened unevenly, and being left to season in the stook, when the weather broke was hastily put together, and I believe has very generally suffered, from heating in the stacks. I know many instances of farmers, who having drawn their crops to the haggards, were compelled to take the stacks down and re-make them in the open fields, to prevent the utter destruction of the corn. The produce was fully, if not over, an average per acre. The *early crop* was in general well saved. Oats were more extensively sown than the last year, but was a thin crop, and the produce under an average. It ripened slowly and most unevenly, and much of it remained uncut to a late period. This crop also suffered much from fermentation, both in the field stacks, and when put together in the haggards. The potatoe crop was a good one—but in many instances the severe frosts which occurred early in November have occasioned a partial injury, probably to the extent of a twentieth—very little remains undug. A considerable breadth of ley land has been broken up this season for the growth of wheat, and which has been sown, as have also the fallows—but this latter mode of cultivation is not much resorted to in this county. There has been as yet but a partial sowing of the potatoe land, the extreme inclemency of the weather *having retarded the clearing of the ground*, and the operations of the plough. In passing through the county last week, I perceived some farmers getting in their wheat on the potatoe land with the spade and shovel, on an extensive scale. The very high price of hay (5*l* per ton) and of straw (2*l* 10*s*), indicates a scarcity of winter fodder—and which, I fear, will be severely felt in the spring. Very little turnips or mangel wurzel have been sown, and the crops of the former are in general very poor—nor is there much appearance of waste grass on the *best lands* for the winter support of cattle. Upland hay in general well saved.

[We have received a report from another valued Correspondent in this County, which so fully accords with the foregoing, that it would be but a repetition of the facts to insert it. We feel grateful to the Gentleman in question for his prompt and accurate communication.—CONDRS.]

DOWN COUNTY.

Scarcely the usual breadth of wheat was sown this year. The crop has proved a good average; quality excellent, and all safely harvested. Barley has been more extensively sown this year than formerly. It has been well saved, and is above an average crop. Oats have, I think, not been so much grown this year as in some former years; but excepting a few cases, has been all well saved. Potatoes may be reckoned in this county a good average crop. In many cases the crop is excellent. They have not, that I know of, been injured by the weather. Only a patch here and there remains undug. Wheat sowing has been retarded considerably, as scarcely a third part has been got in yet. I do not hear of any want of winter fodder this year, more than in former years, as where there were no turnips there was always a want; and, as the farmers in many parts of the county do not seem to know the value of green crops for winter feeding, of course their cattle must suffer for want of fodder.

DERRY COUNTY.

There was less wheat sown than usual. It has not proved an average crop, but has been well harvested. Barley was sown limitedly. It has been

well saved, but is not an average crop. There has been a considerable quantity of Oats sown. It has been generally well saved, except in mountain ground. None remains uncut, but there is a good deal unstacked. Potatoes are a considerable failure this season, and from the coldness and wetness of the ground the quality has been much injured. There still continues a good many fields undug. Neither has the crop proved an average one, nor is the quality good. Wheat sowing has been almost entirely retarded by the severity of the weather. The want of winter fodder is not yet severely felt; but if the weather continues severe there will be a great want. Turnips are rather a failure this year. Mangel Wurzel is very little cultivated in this part of the country, and green feeding is generally scarce.

DUBLIN COUNTY.

DISTRICT OF SWORDS.—There was fully one-third less of the usual breadth of wheat sown last year, in this neighbourhood. Although very thin in the straw, the yield is good, and I think there is an average crop. With very trifling exceptions it was safely harvested, but with more than ordinary expense, and trouble. The farmers of this district have not been barley growers; more, however, has been grown this year than usual. It was not well saved, and is not an average crop. The usual quantity of oats was grown. Owing to their ripening unevenly, or coming badly to the hook, they were not well saved; and were in very many instances brought to the stack-yard in bad order, and suffered there materially. None remain uncut, or unstacked, to this date, 14th December. Potatoes have experienced a similar failure to that of the last few years; but owing to more care being taken, not to the same extent. A considerable portion of the crop, say 5 per cent., was lost by the early and severe frost, and by the bad weather during the digging. Very little remains undug. The wheat sowing in fallow lands was finished, or nearly so, before the very bad weather set in. In potatoe land it has been much retarded—not yet one-half done, and the land so wet that it is much feared a great deal must remain over for a spring crop. The want of fodder not yet felt, except by anticipation, but except in a few instances, the farmers are not supplied with any green crop as a substitute. There is no grass on the pasture land.

[From inquiries which we have recently made, we are led to conclude that the foregoing will apply in a great measure to the circumstances of the whole county. Wheat sowing is reported as in a particularly backward state; much of the potatoe ground intended for that crop is so wet that many farmers have determined upon sowing spring corn instead. This will considerably diminish the breadth under wheat, which would otherwise have exceeded that of last year.—CONDRS.]

FERMANAGH COUNTY.

There was not much more than half the quantity of wheat sown here last year than had been for some previous years, owing, it may be supposed, to the low price in 1835. This year's crop could not possibly be as well saved as in former years, from the unfavourable weather during the harvest season; but I cannot learn that the injury is as extensive as might be supposed. From the almost constant rain, combining with other causes arising therefrom, there has been very little, if any, sown in this quarter yet. There was less barley grown than for many years past; and it must necessarily have suffered in common with other grain. Oats may be said to have been the principal crop this year, and has, in general,

been better saved than might have been expected, from the great attention of the farmer. I cannot learn that there is any now to reap; although I have heard that in many backward and cold mountain districts, some fields were uncut at the beginning of this month. It is at the same time remarkable, that some of the mountain grounds produced well, and in time to be harvested without loss or injury. Potatoes although not yet very high priced here, may be safely reckoned on as a third below an average crop; but if not injured by the rain at the time of digging out, may not rise to an extravagant price, as the farmers are using them frugally. The openness of the season has tended for so far to diminish the consumption of fodder, and has rendered the scarcity less felt than it otherwise would be. Hay is high, but cheaper here than in some other quarters, and from the care taken of it, together with a good supply of straw for cows, may not rise greatly during the approaching spring and summer. This, however, must depend on circumstances, as hay is certainly a short crop, in many instances badly saved, and the old stock long since exhausted, except with a very few of the wealthiest gentlemen of the county. Turnips, mangel wurzel, or other green feeding, is yet very little cultivated by the small farmers, but they are creeping into cultivation by that class; yet I cannot say there is any considerable stock to reckon on. The wealthier farmers have in many instances grown turnips, and some of them pretty extensively, for stall-feeding. Some also have mangel wurzel. Oatmeal is very high, and almost beyond the reach of the poor.

GALWAY COUNTY.

Wheat has not been sown to the usual extent, prices being so low for the past years, farmers declined sowing it. I might say that half the quantity was not sown that was for the last three years. The quantity sown returned an average crop, and is safely secured in the baggarts. Barley was very little sown—the quantity sown returned an average crop, and is secured in the baggarts. Oats have been sown this year very extensively. It is the chief crop here, and if it could be saved, would return an average crop. There is a great part of it unstacked, and part in small field stacks in a bad way;—being made up wet it is now heating. Very little is uncut, but few farmers have any secured in their baggarts. Potatoes were in general an average crop, and I am happy to say, they have suffered very little injury from the severe weather. The greater part of them are dug and in pits. Wheat sowing has been much retarded from the severe weather. Persons were inclined to sow, but must wait until after Christmas, hoping the weather may change. There is a very great deficiency in the hay crop, and fodder is calculated to be scarce, as the straw being badly saved cattle will hardly consume it. The farmers are on the reserve, and are thinning their stock very much short of the last winters. There is no green feeding, mangel wurzel or turnips, sown here. Mr. Clendinning last year encouraged the sowing of clover, vetches, and mangel, very extensively. Many have sown a large quantity of winter vetches this season, and will sow green crops, mangel, and turnips, next season.

KILKENNY COUNTY.

In consequence of the low prices of wheat for the previous years, the usual breadth of wheat was not sown. I should think it was one-fourth less. It was

about an average crop and safely harvested. Barley has scarcely at all been cultivated in this neighbourhood, but there was more than usual sown this year. It was an average crop, but was indifferently saved. The usual breadth of oats was sown. It is extensively cultivated here. It was below an average crop, and was badly saved in the lowlands. In the mountain district it was almost all lost. The portion that ripened was much damaged by the continued rain, and a large quantity was cut green. Little or none remains uncut. There has been a considerable failure in the potatoe crop. I should think it *one-sixth* deficient in quantity, neither is the quality so good as that of former years. The complaint is very general that it is rotting in the pits, in consequence I conclude, of its not having arrived at maturity when vegetation ceased. About one-fourth remains undug. Scarcely any wheat has as yet been sown in this neighbourhood. The want of winter fodder has not yet been felt, owing to the open weather: should frost or snow set in, the farmers in this neighbourhood have no substitute in the nature of green crops, and the cattle will suffer much from the scarcity and consequent high price of hay, and for the reasons before stated. Straw, their ordinary substitute, is also scarce. In my opinion the great cause for alarm is the failure of the potatoe crop, not merely from the deficiency in quantity, but also its tendency to decay. The extent of that evil cannot be known with certainty until spring.

KILDARE COUNTY.

Not more than half the usual breadth of wheat was sown last season, owing to the wretched price it was then bringing. I had 100 acres of wheat the harvest before the last, and although I had upwards of 40 acres of highly manured potatoe and turnip land, all well fit for wheat, I did not sow one acre in it last season, preferring barley and oats, both of which crops have paid latterly better than wheat, and are not so exhausting to the land. The ground that was sown produced a fair average crop, and was harvested in better order than either barley or oats. Barley is not much sown in this part of the county—the land in general not supposed fit for it. When it was sown it was a good average crop, but the constant rain made it impossible to save it properly. I should be inclined to say, that a prime sample of malting barley has not been shown in Dublin market this year from this county. There was a good deal of oats sown, but it has suffered *greatly* from the season, and is much below an average crop; however, there is none remaining uncut or unstacked. There has been a considerable failure in the potatoe crop—they are, however, for the most part dug out—but I am convinced they are much injured both by wet and frost, even more than is at present suspected. I have heard several instances of their being already found rotting in the pits. There remains much of the wheat land to be sown, particularly the potatoe ground, and in its present state of *mortar* it cannot be sown with any prospect of success. The scarcity of winter fodder will be much felt; the more so, as the farmers in this county cannot be prevailed upon to sow turnips, or any description of green feeding—owing partly to their dislike to change from old systems, and partly to the impossibility of securing the crops from depredation—the latter will ever be an insurmountable bar to the improvement of Irish Agriculture, till some remedy be struck out to prevent it, more effectual than any at present in existence.*

[* We think a remedy for this will be found in a more general cultivation of those crops, especially the

turnip. When small farmers grow this root for their own use, the inducement to purloin the crop of their neighbours will of necessity cease.—CONDRS.]

KING'S COUNTY.

The wheat crop is turning out a full acreable average, and has been well saved, but it must be recollected that the usual breadth was not sown. There was a greater sowing of barley than usual, the produce a full acreable average, and with few exceptions it has been safely got into stack. Although the usual breadth of oats was sown, the produce is short of an average in both corn and straw, but all is tolerably well saved. Potatoes are a fair average produce, but the quality is generally inferior and wet. There has been a loss from frosts, before digging, not yet correctly ascertained. The crop is all raised. Wheat sowing has been unusually retarded from constant wet weather, and not one-tenth of the breadth laid out for that grain after potatoes has been got seeded up to this date—14th December. There is a more scanty supply of fodder than usual, and which no doubt will be severely felt, should the winter prove hard, with a late spring. Very few of our small farmers grow any sort of green crops, with the exception of potatoes, of which root they have a fair supply. To guard against rot from frost and wet, potatoe pits ought this season to be carefully examined from time to time.

LIMERICK COUNTY.

The usual breadth of wheat has not been cultivated; but where sown, it has been in many places an average crop, and in most beyond an average. It has been nearly all safely harvested. Barley has been sown rather extensively. As to quantity it is an average crop—as to quality *very indifferent*, from being cut late, and subject to the heavy rains before being stacked. Oats have been extensively sown. All that was sown early has been well saved; but the great quantity of late sowing will hardly have paid for the expense of sowing—however, there is *hardly any* uncut, and our supply is good; I think fully equal to any former year, from the greater quantity sown in place of wheat. Though some potatoes have suffered from the late rain, they are here an abundant crop. A good deal is necessarily undug, but at this season that is not at all unusual: a quantity of reclaimed bog land has been very productive, (the potatoe, however, not so large as the general average.) The wheat sowing has been much retarded. Our weather has been so very severe as to make sowing quite idle work. It could not generate in the ground. Winter fodder is scarce, principally owing to a great number of heifers and cows having *missed* breeding, and consequently the farmers were obliged to put them into stall to fatten, or sacrifice them. However, a disposition is strongly evinced to prevent a recurrence of this evil. Green feeding will be extensively adopted next season, a very plentiful supply of bone dust manure being given by our Society (the Farming Society of Limerick, Clare, and Tipperary,) to the farmers on low terms, to induce them to grow turnips, mangel wurzel, &c., to such extent as to prevent any future want on that head.

LONGFORD COUNTY.

In consequence of the low prices of wheat in the year 1835, the usual breadth of wheat was not sown. The crop is an average one, and for the season has been well harvested. Barley has not been exten-

sively sown. The crop is deficient, and has not been well got in. Oats has been extensively sown, but ripened very unevenly, and was much injured from heating in the stacks. None remains uncut, but there is yet much in the fields. Potatoes, where not injured by the floods, are an average crop, and, generally speaking, are as good as usual; but the greater part of the crop is still in the ground. Wheat sowing has been very much retarded by the season—indeed there is scarcely any sown yet. Wheat here is generally sown after potatoes, and the ground is in such a state that no labour can be performed. At present there is not much want of winter fodder, but it is to be feared that from the very early consumption of it, at the end of the season it will prove scarce. There is no supply amongst farmers of either mangel wurzel, turnips, or winter vetches. The only favourable sign there is, that from the general fear of want, persons are careful of their food and fodder. This year has been unfavourable for turnips and mangel. Some *very* early sowing of winter vetches look well.

LOUTH COUNTY.

Not nearly the usual quantity of wheat was sown, I think one-fourth less. It is fully an average what was sown, and it was fairly harvested. Barley was very extensively sown, more than any one recollects in former years, by one-fourth, and generally proved an immense crop, far above an average. Late barley was got in very badly, and was greatly injured; early barley was put in stack too soon, and a large proportion of it got a slight heat, which destroyed it for malting, but for other purposes it is extremely good. About the usual quantity of oats was sown. In good ground and from ley it has been most productive and of fine quality. Seeding time was so dry, that the light poor lands turned out very badly, and the quality most inferior. It has been tolerably well saved, and is, I think, an average crop. In bad and cold land the potatoe crop has been a most decided failure; but in rich warm land, well manured, there is an extraordinary fine crop. Late potatoes are greatly injured by frost and rain: two-thirds of the crop got in were housed and pitted in bad condition, and must suffer greatly. There is yet a tenth undug. On the whole the crop will not prove nearly an average one. Wheat sowing has been retarded beyond any thing ever known. There is not one-fourth of potato ground wheat got in. Fallow wheat looks well. Winter fodder is very deficient, and the farmers are not provided with a substitute from any description of green crops.

[We have been favoured with returns from two other gentlemen in this county, for which we feel much obliged. They fully corroborate the foregoing.—CONDRS.]

MEATH COUNTY.

The breadth under wheat was in this county one-third less than in former years. It may be considered a fair average crop, and was in general well harvested: in some instances, however, there was a little sprouting of the ear. Barley is not grown to any extent. Oats were extensively sown last year. The crop, as far as my observation goes, is barely an average one. In some districts much of it has heated, but it may be generally said to have been tolerably well harvested in the aggregate. Potatoes have experienced partial failure. It is feared that the wet weather has induced a tendency to rot, which will show in the pit or house, if not closely examined. The crop may be considered nearly an average in

quantity. Not much remains undug. The wheat sowing on potatoe ground is very backward. The land not being in a fit state for the plough, the crop must in some instances be covered in by the shovel. Winter fodder is not so scarce in some districts as might have been expected, and were it not that the high prices induced the farmer to sell, I do not think the deficiency would be found so great as many anticipated.

MAYO COUNTY.

Not more than two-thirds of the usual breadth of wheat have been sown in this neighbourhood. The quality is a shade inferior to the previous crop, and is rendered still worse by the inclemency of the season. Barley is not a favourite crop in this county: it has been but partially sown, and is an inferior crop. Oats were sown more extensively last spring than I recollect to have ever seen before; but the unusually wet and cold harvest weather which we have just experienced has most materially damaged the crop. In several districts, as about Clare, Ballyhaunis, Ballindine, &c. entire fields of oats remain still green and uncut. The oat crop of this year will be lamentably short. Potatoes have failed in some districts, particularly in the west of this county and about the sea shore. They are smaller in size than last year. The constant rains prevent the digging of them: scarcely a sufficiency for present consumption can be procured. Very little wheat has been or can be sown from the quality of the soils and state of the weather. No inconvenience has yet been experienced for winter fodder. I conceive there may be a sufficiency until the end of January, if so far. There is scarcely any green feeding, for although Mr. Clendinning, an extensive land agent, is using his utmost exertions to encourage the growth of green crops, he has been yet but partially able to overcome the habitual prejudices of the people in that respect. One or two seasons, such as the present, however, will compel them to have recourse to it.

In the Newport district, however, another correspondent states that the potatoe crop has turned out much beyond the farmer's expectation. In the summer a failure was dreaded, (and there has been a partial failure) but there is a tolerably abundant crop. Much, however, remains undug, and it is still feared that the constant rain will cause them to rot in the earth.

ROSCOMMON.

Not near the usual breadth of wheat was sown. The crop is a full average one, and has been well harvested. Barley has been extensively sown—it has been badly saved, but is a good crop. Oats has been much grown, it is very badly saved; there is very little, if any, uncut; all is stacked. The potatoes have proved abundant. The quality was not injured until the present severe frost. A considerable quantity remains undug, which must now be destroyed. Wheat sowing has been retarded by the severity of the weather, but there is very little grown in this district. There is every reason to expect that the want of winter fodder will be severely felt. Turnips and green feeding are never grown by the generality of farmers here. The want of fuel is severely felt, as the people were not able to dry the turf, and coals are too expensive for them to obtain. These answers apply to the immediate neighbourhood of the town of Roscommon and Elphin.

Another correspondent from this county reports nearly to the same effect.

SLIGO COUNTY.

In this county there was very little wheat sown last year. It was far below an average crop. What was sown was not well saved, and is of an inferior quality. Barley is not extensively sown in this county. The crop, such as it was, suffered a good deal from the wet. The oats generally sown would have been a good crop had the weather admitted of its ripening in time, but much of it has been left uncut, and a good deal of what has been got in is of a very bad quality. As a proof, it varies in our market from 5d. to 12d. per stone. Very little of it will admit of holding over for any time. The potatoes are not so good as usual. In the moist low grounds many have rotted. A good deal still remains undug: on the whole I would say the crop is a deficient one. Little or no wheat has as yet been sown, owing to the wetness of the season. Fodder will be very scarce. The oat straw has suffered so much that it will not be fit for cattle food. The hay in many places cannot be got in, and is scarce and bad. There is no artificial food, such as turnips, or mangel wurzel, grown in this county.

TIPPERARY COUNTY.

There was nothing like the average breadth of wheat sown last year in our neighbourhood. The produce per acre was above an average crop, and has been safely harvested. Barley was extensively sown, but was not well harvested, and about an average crop. Oats was much sown, but it was a late crop, and not well saved—it is, however, all cut. Potatoes have had no failure in quantity, but are very inferior in quality, and, I apprehend, will be found much deteriorated as an article of food. I fear they will be further injured in the pits, from the very severe weather. A large quantity remains undug. The one-fourth part of the wheat is not in ground in the dry soils; and not one-tenth in the moist soils. Fodder is decidedly scarce—many solely feeding on straw. The turnip crop is under an average—indeed, in some parts of this county turnips are nearly unknown to farmers. Mangel Wurzel has been almost a total failure.

WATERFORD COUNTY.

The usual breadth of wheat was sown in my neighbourhood the last year. It was an average crop, and tolerably harvested; but our's is not a wheat country—it is chiefly oats that are grown. Barley is not extensively sown—what was grown was tolerably well saved, and is an average crop. Oats have been much grown this year, and have been tolerably saved. There is not much uncut. The potatoes experienced a partial failure. The quality is injured by the severe weather—a quantity remains undug. The wheat sowing has been much retarded by the state of the weather, and very little has been sown. The want of winter fodder, it is feared, will be severely felt in this neighbourhood, except by such farmers as are provided with turnips or mangel wurzel—and those are but few.

Another valued Correspondent states, in addition to the foregoing:—I never saw grass for winter fodder so scarce. Hay is very scarce, and straw appears to be equally so, and of bad quality, and the cattle are already looking impoverished.—There is no such thing as turnips, mangel wurzel, or other green feeding as a substitute. The cultivation of these crops does not prevail here—the chief dependence of our farmers is on potatoes, and I fear much these will form but a short supply for the demand

there will be for them. In many instances barley heated after having been brought into the haggarts, and the result has been that the greater part of the crop has already been brought to market. Had not the season for taking the potatoes out of the ground proved so unfavourable, it might have been considered a fair crop. A great quantity, I might say a fifth or sixth, remains yet undug, and in wet lands there is no prospect of their being got out for some time.

WESTMEATH COUNTY.

But little Wheat was sown in this county—it is a fair crop. Very little Barley was sown: it did not prove quite an average crop, nor was it well saved. Neither did the Oat crop prove an average one. It is a good deal injured in consequence of being ripe so very late; none remains uncut. The potatoe crop is excellent, both in quantity and quality—no failure; but there is a good deal yet undug; no complaint as yet about being injured by the weather. Wheat sowing, to the smallest extent practised in this county, is very backward, in consequence of the wetness of the soil, and so much potatoes remaining in the ground. Fodder is both scarce and dear, and very few farmers are provided with any kind of green feeding.

WEXFORD COUNTY.

The breadth of wheat sown last year in this county is stated by several Correspondents to be considerably less than usual. The crop, however, is reported as above an acreable average, and is well harvested. Barley is the principal crop in some districts, and in many of these it turned out good, in others, a great breadth of the *Chevalier* kind was sown, but in general it has been harvested badly. The same observations apply fully to the oat crop. Potatoes are stated to be an abundant crop, but much still remains undug, and in the wet stiff clay lands along the coast and elsewhere are in a precarious state. Those that are pitted may suffer severely from their wetness when dug out. One-fourth of the wheat is not yet sown. Hay is not one-third of an average crop. A few farmers have turnips and rape—they are, however, but a few. Much encouragement has been afforded the growth of green crops, by the Earl of Courtown, and a few other patriotic proprietors. Sixty-six of his Lordship's tenantry have vetches now green. It is to be feared that the want of fodder will be severely felt.

LIVERPOOL, Dec. 31, 1836.

The imports of wheat this month very little exceed one-fifth, those of flour one-half, and those of oats two-fifths of the quantities received in December last year; extending the comparison to the first four months of the two seasons, as stated in the table below, we find the following deficiencies, namely, 62,018 qrs of wheat, 22,470 qrs of oats, 11,442 qrs of barley, 17,837 loads of oatmeal, and 31,645 sacks of flour. With regard to prices, those of wheat are now 3s 9d, those of oats 1s 1d per bush.; of flour 19s per sack, and of oatmeal 11s per load higher than they were on the 31st December, 1835. The stocks at the two periods do not show any very material variation, they consist chiefly of old wheat; there has been a little accumulation of flour within the last week or two, but of most other articles of the trade they may be considered perfectly nominal. By a recent estimate of the quantity of wheat in granary, including Canadian, (some part of which is yet under lock,) it was found to exceed 120,000 qrs; a considerable proportion of this, however, is held entirely off the market. The business of the past month has not by any means

been so lively as that of the preceding; it has lacked a great portion of the speculative character which, during that period, pervaded the trade; at the same time there has been a good steady demand for wheat, both from the millers and dealers, and, in the absence of so large a proportion of the usual imports from Ireland, we have been less affected than formerly by the supplying of Manchester and other markets in that district being in the hands of the Yorkshire and Lincolnshire dealers: this they decidedly have been as regards wheat and flour, confining our sales, as before named, to the local millers and the few orders for shipment to the North of Ireland and Scotland. Old wheat is 2d to 3d per bushel cheaper than on this day month; the best English white is worth 10s to 10s 6d, red 9s 6d to 10s; Scotch and Manx red 9s to 9s 3d, and Irish 8s 8d to 9s 1d per 70 lbs. English new white Wheat has been delivered slowly at 9s 9d to 10s; the quantity offering has at all times been below the actual wants of the trade; such also must be noted the case as regards new wheat from Ireland, and some of the latter imports thence have been of very inferior quality, as may be gathered from their having with difficulty (on an extremely bare market) brought 7s 6d to 7s 9d, whilst prime samples would have commanded 8s 9d to 9s 3d per 70 lbs. There is a prevalent opinion, that the receipts of Irish wheat into this country will not be on a much larger scale than they have hitherto been during the season, and those of flour even less. At present, however, there is an accumulation of flour both here and at Manchester, which it will take some time to work off. Since the 30th ultimo prices of this article have reboded 2s to 3s per sack; indeed the value of Irish new, of ordinary quality, is almost nominal. The best English superfine is held at 56s, Irish fine at 50s to 54s, and fair runs at 46s to 50s per 280 lbs.

In the value of oats there has been little change, but prices of oatmeal have gone down fully 2s per load; this will appear the more extraordinary, taking into account the circumstance of there not being a sample of old meal left over, and that the supply of new has been far from abundant: the latter is now selling at 3s 4d to 3s 5d per 240 lbs. The trade in oats has been very limited; a few parcels of well-dried West of Ireland were sold in the early part of the month at 3s 10d to 3s 11d, and choice parcels would still command these rates; a great proportion of the supply, however, has been of inferior quality, and offering at 3s 7d to 3s 9d per 45 lbs.

Malting Barley has been much wanted, and a few parcels of English of fine quality have brought high rates—44s to 48s per imp. qr. Very little of the Scotch and Cumberland that has yet appeared has been suitable for malting; one or two small parcels have brought 5s 9d to 6s, but the general runs have been taken at 5s to 5s 4d, and the Irish at 4s 10d to 5s 2d per 60 lbs. for feeding purposes and for distillation.

Upwards of 1,700 qrs of foreign beans have been released from bond, most of which have gone into consumption with very little variation in price; they have sold at 48s to 52s, and English at 50s to 54s per imp. qr. A few Irish new have arrived, and found buyers at 46s to 48s per 480 lbs. Peas are almost without inquiry, and may be bought on lower terms; foreign (now all duty-paid) may be quoted at 46s to 52s, English at 50s to 54s per imp. qr. The whole of the bonded stocks of beans, consisting of 5,100 qrs, may be considered on the free market.

In the bonded market we have seldom had less passing in one entire month since the 31st ultimo; the only transactions reported are the sales of three or four thousand qrs of Lower Baltic and middling Danzig red Wheat at 7s per 70 lbs, and 2,000 brls of Hamburg Flour at 30s to 32s per 196 lbs, all for exportation. The quantities shipped during the month consist of 8,000 qrs of wheat, 900 qrs of oats, and 4,600 brls of flour, and the stocks under the King's locks this day are,

Wheat.	Oats.	Beans.	Flour.
125,039 qrs.	10,615 qrs.	5,097 qrs.	79,627 brls.

Since our respects of the 30th ultimo, the reports of our local growers as to the bad state and deficiency of the potato crop have been much more unfavourable

than before, and it is to be feared that the injury will be severely felt. A confident opinion exists, that prices of every description of grain must still advance independently of any casualties to the coming crop, respecting which, the weather during the last few months has not been such as to warrant any sanguine expectations. From the southern counties they write that some portion of wheat land has not been sown; in this district, and more to the north, very little has been got into the ground.

SOMERSET.

The weather during the last month has not, on the whole, been unfavorable to future agricultural prospects; the fine open weather which followed a long rainy season was of much service to those who were backward in their wheat sowing, and a considerable quantity was put in just before the commencement of the frost; the wheat previously sown made considerable progress about the middle of the month, and enabled us to discover that in wet soils, and where it was sown after the rain, it did not come up kindly, the wheat having rotted, and from present appearance that which was sown first stands the best chance; on the whole, the wheat in ground is not nearly so forward as it has been at this season for many years past. Owing to the shortness of fodder, the straw has been much depended on to save hay, and has consequently shortened and delayed the quantity of corn hitherto brought to market; at present there is a good deal of corn under the process of thrashing, but as yet, with the exception of barley, it has not had the effect of materially lowering the price; wheat and flour have receded since the beginning of the month, but the farmers are holding off for higher prices, and the stocks in the miller's hands have not accumulated. Prime beef realized high prices for the Christmas markets, the price has since receded to 10s per 20 lbs; mutton is also dull sale at 6d per lb, the shortness of hay and keep forcing both into the market sooner than it otherwise would. The price of barreners for grazing do not seem as much affected by the shortness of keep as might be expected, there being a good deal of inquiry for those in condition. Mutton is also a dull sale. The lambing season has just commenced, and considering the severe weather, has not been hitherto unsuccessful. We are now nearly clear of snow; so much of the grass was uncovered by the wind, that the sheep did not suffer from that cause, but from the unusual scarcity of feed on the sheep pastures, many flocks will show being hardly driven. Pork maintains its price, 7s 9d to 8s 3d per score. Few potatoes will be consumed this year by pigs; there has been more waste, in consequence of the early frost, among the potatoes than was expected, and it is to be feared the extent is not yet ascertained, as there is already complaints of a great many having become rotten of those stored away. The severity of the weather while it lasted was felt by the working classes: at this season a good deal of the work is taken by the job. I have made inquiry both here and in the southern parts of this county, and find that 8s is the general wages of an able bodied man, with three pints to two quarts of cyder per day; but in many parishes only 7s is given; I have in no instance heard of 6s. In consequence of a strike for wages in Wales, coals have risen in the south and western parts of this county 4d to 6d per cwt, this falls heavily on the poor. In one of the Unions, during the severe weather, 3d on the 1s was advanced on the pay by the Guardians. Although the new poor law has no doubt occasioned many cases of individual hardship, yet it will be productive of much, though not unmixed, good. Since my acquaintance with the condition of our labourers, I have marked a decided improvement, particularly within these few last years: it is clearly the farmer's interest to give his men a fair remuneration, and it is equally clear that it is the interest of the men not to demand more than is justly their due; public interference either way does, I consider, more harm than good; indirect relief which the master's good policy may suggest, is of much more advantage ultimately, both to the master and the labourer, than the relief which the law extorts

STATEMENT OF THE IMPORTS OF GRAIN, &c., INTO LIVERPOOL

For Four Months ending December, 1835, and December, 1836, respectively.

	WHEAT.		OATS.		BARLEY.		RYE.		BEANS.		PEAS.		MAIZE.		MEAL.		FLOUR.	
	British Qrs.	Colo. Qrs.	For. Qrs.	British Qrs.	For. Qrs.	British Qrs.	For. Qrs.	British Qrs.	For. Qrs.	British Qrs.	For. Qrs.	British Qrs.	For. Qrs.	British Qrs.	Sls.	British Qrs.	Colo. Brls.	For. Brls.
Imports for Sept., 1835	20134	..	2460	18926	..	2073	..	..	1599	280	48	43	7148	9029	8759	..	..	1279
Oct., 1835	38010	105	309	27506	430	11084	..	164	3112	280	789	34	6807	23181	35235	..	..	1050
Nov., 1835	18707	..	..	19213	..	10470	..	74	3179	..	69	..	33257	16616	33257	..	..	500
Dec., 1835	28880	..	..	42150	..	10839	..	208	3516	..	220	..	9656	28087	43594	..	9	889
Total.....	105801	105	2769	101795	430	34566	..	446	11406	280	1126	77	27770	77513	120845	9	3718	3718
Imports for Sept., 1836	17183	..	11523	13862	3125	570	..	2	797	..	86	1543	7182	5490	17656	580	5744	5744
Oct., 1836	19241	..	8193	22034	870	7542	..	6	498	..	142	217	5178	11727	16925	693	7605	7605
Nov., 1836	7208	..	950	26648	500	9877	..	5	2988	..	253	18	3546	23028	32780	..	2644	2644
Dec., 1836	6151	..	..	16781	1600	5135	..	43	1245	..	118	..	3346	19431	21939	209	2252	2252
Total.....	43783	..	20666	79325	6005	23124	31	56	5408	..	599	1778	19252	58676	89200	1482	18245	18245

from the one in order to make up a sufficient subsistence for the other.—Wheat has receded from 2s to 3s per quarter this month, and flour from 51s to 46s per sack. Beans are held very stiffly for 6s new and 7s old, but 5s 6d to 6s 6d are the ruling prices. Barley has fallen from 3s to 4s per quarter, 36s to 39s being the present prices. Oats are a quick sale, and the supply is not large, 26s to 32s. Flax seed has advanced 1s per quarter; flax continues a dull sale. At Yeovil Great Market, the 23d, there was an unprecedented supply, much left unsold; the manufacturer complains of the quality; new flax may be quoted at 4l 10s to 5l 5s per pack; old, 5l to 5l 15s.—Jan. 7.

CUMBERLAND.

The weather during the past month has been much of the same complexion as many that preceded it, so much rain, snow, wind, and frost, that little or no out-door work could be performed, consequently the sowing of wheat has been much retarded, and a less quantity by fully one-fourth has been sown than is usually done; the deficiency in quantity may be attributed partly to the impossibility in cleaning the land during the summer, and also to the extreme wetness of the land during the autumn, which made it a difficult task to cart manure upon land of the driest description, and quite impracticable to move upon the clay soils which constitute the greatest portion of the land in this county. The samples of wheat from last crop is in general very inferior, and the produce on an average not more than from twelve to fifteen bushels per acre; good seed is very scarce, which has caused a good demand for old and the best samples of new at from 8s 6d to 10s per bushel. Barley turns out to be the most productive crop, but large quantities are unfit for malting; the produce may be calculated to be from 15 to 25 per cent. less than what was calculated upon during the reaping of the crop, and upon some of the high districts the crop is good for nothing. As regards grain many farmers are foddering cattle with it as carted from the fields. Potatoes were a very bad crop, and the wetness of the season and severe frosts destroyed large quantities; the price is very high, varying from 4½d to 7d per stone. Turnips are very scarce on inferior soils, and the crop was an entire failure; they are selling at from 7d to 10d per week for to be eat upon the land by sheep. Hay is likely to be very scarce; present price of lea hay 8d to 10½d, and meadow from 6d to 9d per stone of 14lbs.—Jan. 16.

OXFORDSHIRE.

The vicissitudes the English climate is liable to, were never perhaps more strikingly exemplified than in the week that preceded Christmas; two or three days were almost unseasonably mild; these were soon followed by others almost unprecedentedly cold. The consequence of the extreme transition has been, that very many are suffering from violent colds, sore throats, fever, &c. Certainly the frost and snow were seasonable, notwithstanding the inconvenience and hindrance of business occasioned by the snow-blocked roads. Ploughing was retarded by the rains in December, still it is in a tolerably forward state, and the land has broken up kindly. Wheat sowing was not completed until the beginning of the last month, but is mostly above ground, and looking healthy, with the exception, however, of some plants early sown, which appear to be set, like the late sown turnips, and from some cause have made little or no progress. Winter vetches are looking well,—and trifolium likewise, and should we not have se-

vere frost to check them, those crops will be of infinite value in the spring, for the hay ricks cut away so fast this season, that many who thought themselves well off, expecting to have a surplus to dispose of, are alarmed, fearing they shall have to buy, instead of to sell. Many aged cows have been killed, as have horses, not above half worn out, in order to save their keeping. Hay had rather receded in price, but since the fall of snow it has somewhat improved, with better demand. What few turnips there were of any size, are fast disappearing, and the approaching lambing season is looked forward to with serious apprehensions. Our corn markets have been rather flat, as is generally the case about Christmas; but best wheats maintain their price, nor do we think they will be lower: the price in Ireland, together with the shipments to New York, fully justify this opinion. The only thing that can prevent it, is the contraction of their issues by the Court of Directors. How much longer, we would ask, is it to be endured, that a dozen individuals shall be allowed to meet in their parlour in Threadneedle-street, and thus tamper with the fortunes and profits of all the people of this great commercial country, save and excepting the monied class. The labourers have hitherto been pretty well employed, but we are fearful that for the next month or six weeks there will be a dearth of employment experienced, and that many will be compelled to go into "the house." We would again press upon our brother farmers the necessity of endeavouring to assist the man with a young family by giving him piece work, as well as by doing all they can to assist the poor man in respect of his rent; for how is it likely that a labourer, earning but 8s or 9s a week, can afford to pay 4l and upwards house rent? And here we beg to differ with the Berkshire reporter, when he says "parish cottages are a nuisance." If they are so in his parish, they can only have become so by mismanagement. Our cottages are, with but few exceptions, let at moderate rents, which are paid half-yearly, and had he been at our last rent audit, he would have witnessed the pleasing sight of 24 or 25, out of 26 tenants, bringing their rent cheerfully, and all rather in more than one hour. It is childish to talk of their being "always ill-blood between the officers and tradesmen respecting the overcharge for repairs done." Why should the former be required or expected to pay more than a private individual? For our part we would ever set our faces against any man who should dare to charge an extravagant price because it was "church work and parish pay."—Jan. 11.

SUFFOLK.

The weather, during the last three months has been unpropitious for all kinds of farming operations; ploughing is particularly backward; carting manure for beans and peas, also on young clover layers, has made but little progress, for want of frost or a continuance of dry weather. In consequence of the unfavourable weather, wheat sowing in many parts or districts in this county was only just finished before Christmas. We are of opinion a much larger breadth of land is sown with wheat this year than last, perhaps equal to an average breadth; this we attribute to the advance in the price of that article of farm produce. Mangel Wurzel, although a fair plant, are scarcely worth carting off the land: we have seen a few pieces which were planted early, uncommonly good,—equal to any we ever saw. Swedes are also very moderate, and common turnips (with a chance exception) are a total failure, therefore the prospect for the grazier is not very encouraging, at least as far as relates to his own resources, for providing provender off his farm; also from the exceeding high price at which oil cake is sell-

ing, it is not likely, even the highest price at which beef can be expected to sell, will repay the grazier for such an outlay. The check which the corn markets have received during the last few weeks will not, in our opinion, act materially against the farmer; it will only tend to keep the markets firm. A too rapid rise or fall is no benefit to the community generally. The Poor Law works well, notwithstanding the violent attacks which it has received from certain parties in this and other counties. And we hesitate not to say, that the condition of the industrious labourer is better than for many years past, he has now constant employ and increased wages for himself and his family; and although, as we before observed, the weather has been unfavorable, there are fewer labourers out of employ this year hitherto, than have been the case for many many years past. There are, it is true, a few cases of hardship; for instance, a man with five or six small children, unable to work; but with the above exception, we never saw a case fairly sifted or gone into, but that those gross charges of oppression completely fell to the ground.—Jan. 7.

YORKSHIRE AGRICULTURAL REPORT.

The weather since our last has been very variable. Our December report was delayed by the obstructions caused by a rapid and drifting snow. The storm continued for a full fortnight, before there was any sign of abatement, and although since that period we have had several partial thaws, yet hard frosts have as speedily succeeded, and remains of the snow still are visible both in elevations and in sheltered situations. The ground is now quite hard frozen. The two all-absorbing topics for agricultural reporters are—the wheat crop and the fodder. With respect to the former, we may observe, that on clay soils, on which wheat principally is grown, the breadth sown is very small, owing to the impossibility of coming on them, arising from the incessant wet. On less tenacious soils however, the reverse is the case, and every disposition has been evinced to lay hold of every opportunity of a little dry weather, to plough out another clover-ley and sow it; on them the breadth is certainly above an average, so far as our present information goes, but we will make it a subject of minute inquiry for future reports. The last sown has met with a very uncongenial seed bed: there is no possibility of its germination, as it is now solidified by the frost and exposed unprotected to its influence. Such as has made its appearance has begun to assume a dark green colour, the result of the pinching cold, and such as has any considerable strength of root, or has been got in in good time, has begun to spread along the ground. Upon the whole, the state of the crop in general is backward, and the most of the land sown with wheat, is not essentially *wheat soil*. The sowing of spring wheat may, however, be tried, for though the produce is seldom so much, and the chances of failure much greater, we apprehend the price of wheat will tempt the farmers, who will any time deviate from their regular routine to suit circumstances. The flail is very busy, as well as the machine, as the other farm operations, especially ploughing, are suspended, and our markets have a large supply. The *barley* stacks are fast disappearing, even amongst those farmers who in other years scarcely began to thrash at this period of the year, and the wheat is kept back, rather owing to a supposition of its advancing in price. Turnips still go very fast, although generally dealt out with as sparing a hand as the exigencies of the case will admit. They are certainly in a very precarious situation at present; the partial thaws cause the wet to percolate the earth to the root, and the succeeding frost predispose them to rot; should this unfortunately be the case, we do not know what can be done for the stock. It is, however, in the hand of that good Being, who ever gave "seed to the sower, and bread to the eater, and "whose are the cattle upon a thousand hills." Hay is dear, but certainly not scarce as yet; there is a disposition to sell at good prices, we mean 7d to 8d per stone. In some of the larger places it is much more; simply arising from

the expences of carriage. Corn markets nearly stationary; the supply is always good, weather permitting. Beef and mutton are in request, and advancing in price. Lean stock are very inferior sale. The agricultural societies are on the look out, and preparing for an attack upon the corn laws, the next session. It certainly will be met in a most energetic and vigorous manner in the country, they will take the alarm in a moment.—Jan. 18.

NORFOLK.

A greater degree of anxiety has been manifested with regard to the effect which the late wintery weather might have upon the plant of wheat now in the ground, than there seems to have been occasion for. The weather during the last month or six weeks, it is true, has exhibited some peculiarities, which are of no very frequent occurrence; nevertheless, the frost has neither been very severe nor of that nature which is calculated to produce an injurious effect upon the roots of vegetables. It is not so much the intensity of the frost which destroys the wheat as the circumstances attending it; such as the condition of the land, and even the state of the atmosphere, which at one time may be capable of suspending vegetation, and at another of destroying it; the latter arising from the sort of frost which is known to watermen by the accumulation of ice at the bottom of the rivers rather than upon their surface, and which also produces a degree of fridity in the land that is quite perceptible even to the tread. We have experienced nothing of this kind at present, although if we had it would not manifest itself till the month of March or April. It is then that the farmer frequently observes his wheats and layers gradually disappear without his being able satisfactorily to account for it. A circumstance of this kind occurred last year, the mischief arising from which was very extensive, and was very wholly effected in one or two nights, somewhat later than the present period, under a temperature not calculated to excite the least suspicion.

The inland counties always encounter the heaviest falls of snow, and although during the late influx of that element we had in Norfolk, a sufficient quantity to render the cross roads impassable for the time being, yet it was but a salutary Godsend to provide employment for labourers, rather than a visitation to be severely felt by the flock-master, to the extent that is reported of some other counties. Threatening as the weather appeared at the commencement of the Christmas holidays, and brief as it proved in continuance, it was quite sufficient to lay an embargo upon inland navigation, and to interrupt the ordinary proceedings of the farm; and even the carting of marl and clay, the laying of bottoms for the reception of manure and similar business, which is usually resorted to under such circumstances, could only be made available in some few instances, owing to the obstructions which the drifted snow had placed at most of the cross-roads and hedges; thus all work being suspended but the operations of the thrashing floor, a large accumulation of grain was the necessary result, which being thrown precipitately on the market, it is not surprising that a diminution in value should have been the consequence thereof. In consequence of the apprehension that a scarcity of cattle food might be yet felt at the approach of spring, arising in some measure from the little precaution which has been taken to preserve the turnips from the effect of frost, either by storing them in the homestead, or by ploughing under in the field, a corresponding diminution has taken place in the value of lean cattle, this has had the effect also of sending off a large number of half fat

beasts for slaughter, and thus the price of butcher's meat has been made to partake of a similar reduction. Store pigs also have receded of late, although the price is still too high to admit of any profit, beyond that of the excellent manure which they leave behind for those who follow them.—*Jan. 23.*

SOUTH NORTHAMPTONSHIRE.

The weather since my last has been very unfavourable for the farmer to complete his winter ploughing, which was in a more backward state than has been known for many years, occasioned by the lateness of the harvest and the prolonged wheat seed time; the wheat that was sown early looks well in this neighbourhood, but the late sown and that which was put in wet looks very bad, and is very much damaged by the wire worm. Winter vetches are a very good plant, and are more extensively sown this season than usual here. Trifolium is very little cultivated here this season, as it is considered very inferior to vetches. The old wheat ricks which were not very numerous in this county, are very fast disappearing, and the new wheat in general comes very damp to market, which greatly depresses the prices. The fairs which have been held in this neighbourhood lately have been over supplied with beef, and as the farmers are obliged to sell at some price on account of their hay and turnips getting short, the trade has been extremely dull; mutton is also in full supply, and is somewhat better in price, the best wether mutton making 6½d per lb. Wool has been very much enquired after of late, and is now selling well, 45s per tod having been obtained in several instances for half ewe and teg wool. Wheat 56s to 50s; Barley, chevalier 40s to 42s; Oats 30s to 34s; Beans 46s to 50s, per imperial quarter.—*Jan. 21.*

DERBYSHIRE.

I have not any thing of very great importance to communicate in respect to the agricultural world, the ground in general has as good an appearance as the season of the year will admit. The human world seems now to be suffering the most. The influenza is raging with the most alarming havoc in our ranks, scarce a house but the inmates are more or less sufferers by it; some establishments have entirely suspended business, and to give a minute description of its ravages is impossible. It is not merely confined to the human creation; it has attacked the brute too, horses and cattle of every description seem to be suffering from a similar cause. Wheat has improved very much in its appearance, but generally it is thin set. The farmers who are occupiers of dry soils are beginning to break up their fallow ground, but that is only to a partial extent. The late frosts have allowed the farmers to carry a good deal of their manures, compost, &c. to places as most suited their purpose; though, had it continued longer, it would have been an accommodation. Hay continues steady in price, the average being 77 per ton. Our corn markets are rather depressed; the average price of grain being as follows: Wheat 60s per qr; Barley, 38s per qr; Oats, 1s 2d per stone, Peas and Beans varying according to weight, quality and condition. Our fat stock markets are firm; while lean stock remains almost unsaleable, from the scarcity of keep of every description; the corn stacks are disappearing exceedingly fast, and we are afraid will be wanted nearer spring.—*Jan. 26.*

GENERAL AGRICULTURAL REPORT FOR JANUARY.

The most gratifying agricultural complexion of this month has been, the rich and not over mellow appearance of the newly ploughed soil, very considerable breadths of which we have seen in both Kent, Essex, Surrey and Middlesex. Under the head of "ploughing in general," the rev. author of the "Husbandry of the Ancients," asserts—"By it, the soil is exposed to the atmosphere, and thereby the food of plants communicated. By this the land is stirred and turned over, and thereby the mould divided, and the pasture of plants enlarged. By it, the weeds growing on its surface are destroyed, and their lurking roots exposed to be dried by the wind, and burnt by the sun. By it, too—ridges being made, and furrows properly placed—wet land is made drier, by its being opened and rain allowed to descend: an operation which serves many valuable purposes, is certainly very important, and deserving of great attention." However, as farther relates to British tillage, the early oat seeding has already proceeded to a considerable extent; and preparing the seed furrow for beans and peas is, with every other branch of farm labour, in a sufficiently forward state; and live farm stock, both on the sheep downs, in the pastures, stalls, and closes, is generally healthy and doing well. So mild, indeed, has been the atmospheric temperature, during nearly the whole of the month, that primroses have been exhibited for sale in all the London vegetable markets, from almost its commencement, whilst the most of the forward shrubs have shown a strong disposition to break into foliage.

As the hop poling season is not far distant, the following extract from a homely publication may not, perhaps, be wholly uninteresting to a portion of our hop-growing readers—"If your hops be strong and ground rid, provide large poles, either in bigness or length, or else you will lose the best of them. The ash poles are the most durable. The old roots are red, the new white, and if there be any wild hops amongst them, the whole of the hill must be taken up and newly planted. Disperse the poles among the hills before you begin to pole. Let the poles lean outward, that is to say, one from the other. In the middle of every hill make a hollow place, and force into it a pointed stick or iron, and pour water into the holes, till you believe the hill to be well soaked, afterward covering it with the parings of your garden."

There is, we feel happy to assert, an increasing good understanding between landlords and tenants, many of the former, whose leases are for a considerable term of years, unexpired, having voluntarily agreed to a considerable reduction in their rent, whilst others, who conceive their farms to be by far beyond their tenants' strength, express themselves disposed to reduce them into such sizes, as the different members of their—the tenants—families shall appear capable of conducting on their own account.

There are, however, still differences of opinion amongst both landlords and tenants, relative to the workings of our New Poor Law, and manuring with ground bones. It seems, also, by some, both hoped and anticipated, that all lay impropriations will become either Crown or Church property.

As relates to the prices of farm produce, these, with the exception of those of mutton and veal, have been throughout the month considerably drooping, and are promising to be still lower.

The following is a retrospect of the supplies and prices of fat stock exhibited and sold in Smithfield market, in the course of the past month :—

SUPPLIES.

SMITHFIELD.

	Beasts.	Sheep.	Calves.	Pigs.
Jan. 2.	2930	27300	160	230
— 6.	525	3200	250	335
— 9.	3070	23500	148	332
— 13.	625	1955	140	280
— 16.	3200	21000	195	372
— 20.	420	2035	130	212
— 23.	2425	18050	142	220
Total	13195	97240	1165	1981

Supply of preceding month. } 20920 98663 1411 2675

By the above statement it will be seen, that the supplies of the present month have comprised 7,725 beasts, 1,423 sheep, 246 calves, and 694 pigs less than those of last month.

About 5,370 of the beasts which have composed the above supplies, about two-thirds of which were Short-Horns, Devons, Herefords, and Welch runts, the remainder, Scots, homebreds, and Irish beasts, came from Lincolnshire, Leicestershire, Northamptonshire, and our other northern grazing districts; the number up the St. Alban's road being about 2,420; the other northern roads, 2,950; about 2,190, chiefly runts, Devons, Scots, and Herefords, with a few homebreds and Irish beasts, from our western and midland districts; about 3,080, in about equal numbers of Scots, Welch runts, Herefords, and Devons, from Norfolk, Suffolk, Essex, and Cambridgeshire; about 555 horned and polled Scots, by steamers, from Scotland; about 375, chiefly prime Sussex oxen, steers, and heifers, with a few runts and Devons, from Kent, Sussex, and Surrey; and most of the remainder, including about 100 lusty town-end cows, from the marshmen, cowkeepers, cattle-lodgers, stall-feeders, &c., in the neighbourhood of London.

PRICES.

Per 8lbs, to sink the offals.

	Jan. 2.		Jan. 23.	
	s. d.	s. d.	s. d.	s. d.
Inferior Beef	2	2 to 2	4	2 to 2
Middling, do.	2	8 to 3	6	3 to 3
Prime, do.	3	10 to 4	2	4 to 4
Inferior Mutton	2	4 to 2	6	2 to 3
Middling, do.	2	8 to 3	6	3 to 4
Prime ditto,	3	10 to 5	0	5 to 5
Veal	4	0 to 5	4	4 to 5
Pork	3	2 to 4	8	3 to 4

A comparison of the supplies and prices of stock sold in Smithfield, on Monday Jan. 25, 1836, and Monday, Jan. 23, 1837.

At per 8lbs, sinking the offals.

	Jan. 25, 1836.		Jan. 23, 1837.	
	s. d.	s. d.	s. d.	s. d.
Coarse and inferior beasts	2	2 to 4	2	2 to 4
Second quality do.	2	8 to 3	2	8 to 3
Prime large oxen	4	2 to 4	6	2 to 4
Prime Scots, &c.	4	2 to 4	6	2 to 4
Coarse and inferior sheep	2	10 to 3	2	10 to 3
Second quality do.	2	10 to 3	2	10 to 3
Prime coarse-wooled do.	3	4 to 3	4	6 to 4
Prime South Downs do.	4	0 to 4	5	2 to 5
Large coarse calves	3	8 to 4	10	4 to 4
Prime small do.	5	0 to 5	6	5 to 5
Large hogs	2	10 to 3	10	3 to 3
Neat small perkers.	4	0 to 4	4	2 to 4

SUPPLIES.

Jan. 25, 1836. Jan. 23, 1837.

Beasts	2,760	2,425
Sheep	18,100	18,050
Calves	310	140
Pigs	380	220

The supply of Monday Jan. 25, 1836, as will be perceived, by the above, embraced 235 beasts, 50 sheep, 170 calves, and 160 pigs more, than that of Monday, Jan. 23, 1837.

In store stock, but little business has been transacted, this month.

The supply of sheep, this month, has consisted of about equal numbers of old and new Leicesters, South Downs, Kents, Kentish half-breeds, and old Lincolns, with a few Norfolk sheep, white-faced polled Gloucesters, horned Dorsets and Somersets, horned and polled Scotch and Welsh sheep, &c.—The supply of sheep, from Scotland, has been but limited.

The sheep have been derived from our northern grazing districts, Sussex, Kent, Essex, Middlesex, and our western and midland districts.

The quantity of slaughtered meat which has reached London has been tolerably good, though not so great as was that of last month.

The total number of beasts sold in Smithfield, in the course of last year, was 172,533; of sheep, 1,336,319; of calves, 25,048; and of pigs 35,722.

TO THE EDITOR OF THE CAMBRIAN.

SIR, Since I wrote to you last on the propriety of cultivating the Apple-tree in the Vale of Glamorgan, I have learnt with pleasure that the Earl of Dunraven has commenced, by having an orchard of seven acres planted on Lannihangel farm. This will be a great acquisition to that venerable pile; and when all his lordship's farms through the vale are supplied in proportion to this, he will have very materially enhanced the value of his estate, and deserve the gratitude of posterity.

Every lover of his country must be proud to hear of such an example from a Nobleman, who is at present a non-resident. When once orchards become general, there will be no inducement for plunder, and as I have before observed, the tiller of the soil will have a wholesome beverage, superior to malt liquors, for quenching thirst, giving a stimulus to exertion by its exhilarating qualities, instead of water.

Coopering, as a branch of industry, would soon become a flourishing trade; there would be a considerable demand for oak and ash, while the malt tax would not be felt so heavily as a burthen.

Some may fancy that there are situations too bleak for orchards in the vale: Penline Castle gardens prove to the contrary. The hardy fir tree would flourish for shelter, and the hawthorn quick-set, placed in the Scotch style, would become soon into an excellent fence, at a moderate expense, in the most exposed parts of our coast-land.

I have, in my possession, in excellent preservation, an apple that measures twelve inches and a half in circumference, which weighs nearly fourteen ounces, off a tree at Aberthir. I mention this to show what our fine country is capable of producing.

I beg to return you my thanks for your noticing my previous observations, and remain, Sir,

Your most obedient Servant,

Cowbridge, Jan. 18, 1837.

D. P.

THE WEEKLY AVERAGE PRICES OF WHEAT THROUGHOUT THE UNITED KINGDOM, AND ALSO OF LONDON, DURING THE YEAR 1836.

UNITED KINGDOM.		LONDON.	
	per qr.		per qr.
8th January.....	36 6	5th January.....	38 4
15th ".....	37 0	12th ".....	39 4
22nd ".....	37 10	19th ".....	39 0
29th ".....	39 3	26th ".....	42 0
5th Feb.,.....	39 7	2nd Feb.,.....	42 0
12th ".....	39 7	9th ".....	41 11
19th ".....	40 7	16th ".....	42 11
26th ".....	42 6	23rd ".....	44 0
4th March.....	44 7	1st March.....	47 6
11th ".....	45 0	8th ".....	48 0
18th ".....	44 2	15th ".....	46 9
25th ".....	44 7	22nd ".....	46 3
1st April.....	46 5	29th ".....	48 5
8th ".....	47 7	5th April.....	50 7
15th ".....	48 8	12th ".....	51 5
22nd ".....	48 10	19th ".....	52 0
29th ".....	48 3	26th ".....	50 9
6th May.....	47 11	3rd May.....	49 2
13th ".....	49 3	10th ".....	49 9
20th ".....	50 4	17th ".....	51 2
27th ".....	49 20	24th ".....	51 3
3rd June.....	49 4	31st ".....	50 9
10th ".....	51 0	7th June.....	52 6
17th ".....	51 1	15th ".....	54 0
24th ".....	50 6	21st ".....	52 11
1st July.....	50 8	28th ".....	53 3
8th ".....	50 7	5th July.....	52 2
15th ".....	49 4	12th ".....	51 3
22nd ".....	49 2	19th ".....	50 11
29th ".....	49 6	26th ".....	51 7
5th August.....	50 8	2nd August.....	53 7
12th ".....	50 4	9th ".....	53 8
19th ".....	48 10	16th ".....	50 10
26th ".....	46 11	23rd ".....	49 6
2nd Sept.,.....	48 1	30th ".....	30 2
9th ".....	47 9	6th Sept.,.....	50 2
16th ".....	47 10	13th ".....	50 11
23rd ".....	48 5	20th ".....	52 2
30th ".....	48 2	27th ".....	51 6
6th October.....	47 2	4th October.....	50 7
14th ".....	47 0	11th ".....	49 6
21st ".....	47 7	18th ".....	50 1
28th ".....	49 7	25th ".....	51 11
4th Nov.,.....	51 8	1st Nov.,.....	53 6
11th ".....	55 6	8th ".....	56 5
18th ".....	60 4	15th ".....	61 5
25th ".....	61 9	22nd ".....	63 10
2nd ".....	59 7	29th ".....	62 4
9th ".....	60 4	6th Dec.,.....	63 10
16th ".....	60 6	13th ".....	65 1
23rd ".....	59 2	20th ".....	62 6
30th ".....	58 9	27th ".....	61 10
Aggregate year's } average.....	48 9	Aggregate year's } average.....	51 1

GREAT BRITAIN AND IRELAND.

The following table appears in the report of the Commissioners for Inquiring into the Condition of the Poorer Classes in Ireland, presented to both Houses of Parliament by command of His Majesty:—

CULTIVATED AND UNCULTIVATED LAND AND AGRICULTURAL PRODUCE OF GREAT BRITAIN AND IRELAND.	
Cultivated land of Great Britain, according to tables laid before the Emigration Committee of the House of Commons, in 1827, by Mr. Cowling.....	34,014,000 Acres.
Added by subsequent Enclosure Acts*.....	240,000
Total.....	34,254,000
Cultivated land of Ireland, according to the calculation of Mr. Griffith, under whom the valuation of Ireland is now taking place.....	14,603,000
Uncultivated land of Great Britain in 1827, according to the above-mentioned tables.....	22,819,330
Deduct land subsequently brought into cultivation, as above.....	240,000
Total.....	22,579,330
Uncultivated land of Ireland in 1831, according to Mr. Griffith's calculation.....	5,340,736
Supposed annual value of the agricultural produce of Great Britain†.....	150,000,000
Supposed annual value of the agricultural produce of Ireland‡.....	36,000,000
	Great Britain. Ireland.
Occupiers not employing labourers and who may, therefore, be considered as belonging to the class of labourers..	168,815 .. 564,274
Labourers not occupying land.....	887,167 .. 567,441
Total.....	1,055,982 1,131,715

FOOD FOR CATTLE.—A correspondent sends us an extract, which we subjoin, from a communication from the Prussian States, in the vicinity of Dantzic. The experiment detailed is one which every farmer can try for himself, without any expense; and, if it shall succeed with potatoes injured by frost, the discovery may be of essential importance, to many, in seasons such as the last:—"Cut straw, mixed up with sliced potatoes, and well wetted with water, placed in a box having three sides and a bottom, in the stable, and trampled upon. The mass ferments, and after 68 or 70 hours, becomes so hot that the potatoes are as if they had been boiled. If not used, the mass must be spread, or it spoils. Food thus prepared keeps and fattens cows and oxen, and is the most approved plan in these provinces for keeping them in the most excellent condition, at the least possible expense. Three such boxes, each containing food sufficient for one day, and each being filled as soon as emptied, is the plan followed in preparing the food."—*Scotsman.*

TO THE EDITOR OF THE FARMER'S MAGAZINE.

SIR,—A constant reader of your valuable Magazine would be glad to have the following questions answered, by some of your intelligent correspondents:—Where is the manure called "Animalized Carbon to be purchased, and to what crop and soils is it most beneficial?

Is it desirable to give bullocks water that are soiling on tares or clover, and do they lay up meat faster when stall fed on the above provender, or when running loose in a yard?—Your obedient servant,

C. D.

* There appears to have been about 140 Enclosure Acts passed since the year 1827, and each enclosure is supposed to take in from 1,600 to 1,800 acres.

† The rental of Great Britain is at present considered equal to what it was in 1810, when, according to the Property Tax return, it amounted to about 33,000,000l a-year, and the rental is not considered equal to two-ninths of the produce; therefore the annual value of the agricultural produce of Great Britain cannot be taken at less than 150,000,000l, which is more than four times the amount of agricultural produce of Ireland.

‡ This is the calculation of Mr. Griffith.

TO THE EDITOR OF THE FARMER'S
MAGAZINE.*Witnesham, Suffolk.*

Sir,—I beg to thank you for collecting various useful hints, but Rusticus is in error in supposing that the egg of the turnip fly is on the seed, and the insect thus produced. The turnip fly abounds everywhere, upon every tree, bush, and plant, during the summer months, and hide in the bark of old trees, &c. in the winter, and come out to feed as soon in the spring as the weather permits, generally about the 10th of April, a few may be seen earlier. They breed on succulent plants, and mostly on such as produce oily seeds. I have repeatedly seen them in all stages of their growth on such, hundreds, or I may say, thousands at a time, but never could detect the grub; at least, I took no pains to do so, after having convinced myself that they cannot be reduced to any extent.

The only possible mode of securing a plant is to force their growth by tillage and manure, or by thick seeding, or to save expense, to drill decoys of some other species of seed. Steeping the seed, or dusting with lime, soot, sulphur, or even arsenic, will not prevent them from sucking the juice of the plant, nor will any other nostrum hitherto prescribed. I speak from experience, having tried every means, studied the nature and habits of this fly for a number of years, and when in doubt, applied to the Rev. Mr. Kirby, the celebrated entomologist, for information. A plant may be obtained; whether it is advisable to incur the expense is another question. The failure of the turnip crop of late years, has been a serious loss to individuals.

I am, Sir, your obedient servant,

CHAS. POPPY,

IMPORTANT TO MALTSTERS.—On Wednesday Lord Denman delivered judgment in the case of Shaw v. Roberts, which was an action on a policy of insurance, against fire effected on a malt-kiln. The plaintiff had received a quantity of bark which had been sunk in the river to dry it in the kiln, which was burnt down in consequence. This change of employment of the kiln was stated to be a violation of the policy, and the jury having returned a verdict that the drying of bark was more hazardous than the drying of malt, it was contended that the plaintiff was not entitled to recover. The Court, however, thought that this momentary varying of the general employment of the kiln, to perform an act of kindness, was not such a change as required to be noticed to the insurers, and the rule therefore for entering a verdict for the plaintiff must be made absolute.

TRIUMPH OF RAILWAYS.—It was matter of some curiosity whether or not the engine could continue to work upon the Newcastle and Carlisle Railway during the continuance of the snow upon the road. The possibility of so working was fairly put to the test on the 26th ultimo, and the utility of railways demonstrated in a most striking manner. In the deep cutting through the Cowran Hills the snow had drifted to the depth of four or five feet; and when the Hercules came down on Monday morning great numbers of country people had assembled to see how he would act in such an emergency, and to render any assistance which might be necessary. On arriving at the spot the engine made no bones of the matter, but dashed right into the drift, clearing his way through, apparently without the slightest difficulty, the snow at the same time flying over the top of the engine chimney like foam from the broken waves of a violent sea; and notwithstanding this and other similar obstructions, the train came down from Greenhead (twenty miles) in an hour and a quarter. The trains have continued regularly to keep their time, while all communication by common roads has been more or less seriously obstructed, if not entirely cut off for a time.—*Carlisle paper.*

AGRICULTURAL DISTRESS.

Mr. Hood illustrates the diversity of opinion on the question of Agricultural Distress by giving the notions of some of his country friends on the subject: one of them, Simon, states his view as follows:—

You see, 'twas hard on Quarter-day,

And cash was wanted for the rent;

So up to Lunnon I was sent,

To sell as prime a load of hay,

As ever dried on summer's day.

Well, standing in Whitechapel Road,

A chap comes up to buy my load,

And looks and looks about the cart,

Pretending to be 'cute and smart;

'But no great judge, as people say,

'Cause why? he never smelt the hay.

Thinks I, as he's a simple chap,

He'll give a simple price, mayhap,

Such buyers comes but now and then,

So slap I axes nine pun' ten

"That's dear," says he, and pretty quick

He taps his feathers with his stick,

"Suppose," says he, "we wet our clay,

Just while we bargain 'bout our hay;

So in we goes, my chap and me!

He drinks to I, and I to he;

At last says I, a little gay,

"It's time to talk about that hay,"

"Nine pound," says he, "and I'm your man,

Live and let live, for that's my plan,"

"That's true," says I, "but still I say,

It's nine pun' ten for that 'ere hay."

And so we chaffers for a bit,

At long and last the odds we split;

And off he sets to show the way,

Where, up a yard, I leaves the hay;

Then, from the pocket of his coat,

He pulls a book, and picks a note.

"That's Ten," says he—"I hope to pay

Tens upon tens for loads of hay,"

"With all my heart, and soon," says I,

And, feeling for the change hereby;

But all my shillings com'd to five—

Says he "No matter, man alive!

There's something in your honest phiz

I'd trust, if twice the sum it is;—

You'll pay next time you come to town,

"As sure," says I, "as corn is brown."

"All right," says he, thinks I, "huzza!

He's got no bargain of the hay!"

Well, home I goes with empty cart,

Whipping the horses pretty smart,

And whistling ev'ry yard o' way,

To think how well I'd sold the hay—

And just coteh'd master at his greans

And bacon—or, it might be beans,

Which did n't taste the worse, sure/y,

To hear his hay had gone so high.

But lord! when I laid down the note,

It stuck the victuals in his throat,

And choked him till his face all grew

Like pickling-cabbage, red and blue;

With such big goggle eyes, Ods nails!

They seem'd 'a-comeing out like snails;

"A note," says he, half mad with passion,

"Why, thou dom'd fool! thou'st took a flash 'un!"

Now, was n't that a pretty mess,

That's Hagricultural Distress.

FAT SHEEP.—The pen of five pure Southdown Shearling Sheep, bred and fed by Mr. Robert Stubbin, which were exhibited at the South Suffolk Agricultural Meeting at Clare, in November, and won the prize, were killed, Dec. 21st, by the following persons:—

	Carcass.	Loose Fat.
Mr. Vince, of Whatfield,	one sheep	135lbs. .... .17lbs.
Mr. Atkinson, Stratford,	ditto	.....130lbs. ....14lbs.
Mr. Mott, Hadleigh,	ditto	.....120lbs. ....15lbs.
Mr. Brown, Hadleigh,	ditto	.....112lbs. ....16lbs.
Mr. Day, Hadleigh,	ditto	.....112lbs. ....21lbs.

THRESHING MACHINES.

That supply and demand are the principal causes of the high and low price of an article, was never more fully evinced than during the last three months in the article of wheat,—that grain could not be purchased in some country markets in October and November last, at less than 18l to 19l per load (*the best sample*); now the same quality may be purchased in the same markets at 15l or 16l per load; to this depreciation, in a great measure, may be attributed, the use of the threshing machines; the great prices set the machines to work all over the country. On this head (as well as on many others) there are some good and true observations in *Lance's "Golden Farmer,"* which we extract as follows:—

"Threshing by the flail can only be done by robust, athletic men. If the superior strength of these men can be employed in another way to produce corn, and the decrepit, the women and children, and two or three old horses, can do it as well, and it is found equally to answer the purpose of the farmer, why should it not be adopted? Does it matter if ten persons are employed one day, or one person ten?"

"A wet day sometimes happens, when neither horses nor man can be employed in the fields: at the threshing machine they can be usefully employed. By the want of necessary supplies of corn at market, corn will rise; for it is supply and demand which regulates our markets, and establishes prices and rents. A demand for corn being made, the prices rise; the threshing machines are set to work to obtain the then wanted grain; the market is supplied, the corn drops in price, and thus the community is benefited. A wheat stack is put into the barn; one man, or perhaps two, are put to thrash it out: they are months about it; in the meantime rats and mice are generating and feeding upon the corn; many quarters are destroyed, and the community injured. Whereas, if a machine is used, upon finding the vermin has attacked the corn,—it is wanted at market—or the farmer wants money,—the whole is readily done in a few days. If these machines were not of service to the farmer, they would not be had recourse to,—the evil of them would cure itself."

The use of machinery is better understood in Scotland than in England, amongst the labouring class of the community, for there, most farms have a threshing machine, and when there is not, many good farming men refuse to work, for fear they should be set to threshing. To those wealthy yeomen in England, who are able to keep their corn, over the year, the community are under infinite obligations, but for them the corn would have been much dearer than it has been; they, it is true, had kept the corn for their own benefit, but it has very much served the country, by bringing it to market when it was wanted there, and prevented the foreign corn coming to our market at a nominal duty.

TO THE EDITOR.

SIR,—I read in one of your papers the complaint of, as I recollect, a Somersetshire farmer, that, for "want of keep, he was under the necessity of selling his sheep, not ready for sale, at a dull and falling market." Now, at that very time, I had lucerne a foot and upwards in height, and the circumstance, namely, the farmer's complaint, has induced me to recur to the cultivation of lucerne, one of the best, or the very best, resources of a stock farmer. On this head I have an anecdote at hand, and probably may have given it before, but a man of your knowledge of the world, Mr. Editor, must be well aware that the aged are very regular repeating watches. Some 15 or 20 years since an old Yorkshire farmer, who had read my "New Farmer's Calendar," called on me to have a little gossip on farming, and particular-

ly stock farming. It was in the Dog-days, and the grass was universally burnt up. I took him to a piece that had been grass, but we walked over it as over a turnpike-road, at the end of which, however, was about a rood of lucerne, very near a foot high, and, the season considered, wearing a most healthy appearance. He had heard of lucerne before, but had never till then seen it; he expressed much pleasure and astonishment at its flourishing state, and the great benefit it must be of to a live-stock farmer in such a season. I fully expected he would have availed himself of so great an advantage, but, on inquiry, I found he never did so to the end of his farming days, though he has not been long dead. *Ainse vali monde*. Every considerable stock feeder should be provided with 15 or 20 acres of this grass, not broad cast, nor humbugged in narrow rows, but in rows 18 to 20 inches apart, to be regularly boed, and not a weed suffered to live in it. Such was the practice of our superior cultivators 50 or 60 years past. To repeat, lucerne to succeed must be submitted to the old Tullian culture, in wide rows, and not a weed suffered to interfere. It is generally fed off the first year, but that as generally breaks and mixes the drills, and renders fresh seeding and culture necessary. At the end of about 14 years a successor to this crop should be in preparation. It is a crop of never failing profit where stock is kept, or where it can be sold either in grass or hay. Lucerne hay, from its substance is hay of the first class for stage horses, and many a small farmer, in the late cheap times, who was ruining himself by growing wheat, might have saved himself by the culture of lucerne. I have cultivated it to perfection on a strong clayey loam in Middlesex.

To proceed to my small experimental rows:—The practice of spring-sowing wheat has prevailed considerably of late, and is, no doubt, preferable on poor lands and exposed situations; the lands thereby getting a good winter fallow, and the opportunity for a thorough cultivation. I sowed on the 18th and 20th of February, and my crops were as forward as those sown in the autumn. I had four different qualities of seed—best sample pure, ordinary, tail corn, and picked kernels, perfectly sound, but having a strong scent of smut—unsound and decidedly smutty—*simile simili gaudet*.—each produced its like. The sound (with a scent of smut, with some improvement, retained its original scent: the smutty rather improved upon the seed in that respect. Some of the finest sound ears reached four score kernels each, and I should suppose, averaged at 45—an average, no doubt, always of ten kernels per ear above that of the field culture; the grains also being larger and more plump. Such will be the case in wide sown crops, besides a lofty and heavy bulk of straw. Broad cast and narrow drilled crops undoubtedly return the greater number of ears, and kernels, for which wide sowed crops make full amends in size and weight, and even the quantity per acre often fully equals that of the broad-cast crops.

OCTOGENARIUS.

AGRICULTURAL LIBRARIES.—In a London paper we observed the following paragraph a short time since:—"In East Sussex some of the principal farmers on the 18th joined in a half-crown annual subscription for purchasing, '*The Quarterly Journal of Agriculture, and Prize Essays and Transactions of the Highland and Agricultural Society of Scotland*,' to be deposited at a circulating library in the town of Lewes, to be then delivered on the market days to the subscribers in the order of their subscriptions; and to the

names of these farmers are added those of large landed proprietors and clergy, in hopes this inquiry into the plans which have caused agriculture so to flourish in North Britain, that the bleak north supplies a large proportion of the fatted meat now sold in London; and that agriculture in South Britain may rise from the depressed state which has made it petition for legislative relief." We trust the farmers of other counties in England will follow the good example thus set them by those of Sussex. In the preceding volumes of this Journal will be found practical essays illustrative of almost every subject of farm management, and figures of every improved implement of husbandry used in this country. In the Transactions are accounts of many improvements made by proprietors and farmers throughout the country, with the costs particularised. We do not assert that every practice in the husbandry of Scotland is applicable to the soil and climate of England; but it is evident that that practice which is safe in the poor soil and bad climate of Scotland, may confidently be pursued in the good land and much finer climate of England. Let the experiment of Scotch farming be fairly tried in England, in any of the southern or midland counties, and success will assuredly be the result. The ruling principles of Scotch farming are economy and skill,—skill in adapting the culture to the soil and situation, and economy in arriving at its completion with the least labour. What more is requisite "to make the wilderness to blossom as the rose?" The will,—Book-farming, we know, is not in favour with farmers, otherwise we should find admittance into every farmer's library, and every farmer has a library. But although we know, and therefore admit, that no man can be made a farmer by book, we cannot admit that the best farmer may not at a time find useful hints in a book. The best farmer cannot know every article of practice which is followed in every part of the country, and as most practices are discovered by what is called chance or accident, it is clear that the discovery cannot generally be made known until it is disseminated abroad. A farmer who travels appreciates the information which he receives in conversation with farmers, and by observation of field-labour. Such a farmer possesses advantages over him who always remains at home, that is, within the circle of his markets. Now the object of an agricultural book, and particularly of an agricultural periodical work, is, at stated times, to carry hints, suggestions, and discoveries, important or unimportant, to the home of the farmer, that he who loves to stay at home may possess the advantages of him who travels at times abroad, and that he who travels abroad may compare what he has seen with what he reads, and decide which practice is the best suited to his particular purpose; or perhaps when comparing the hints of others, he may himself discover a practice superior to them all. In this manner a good agricultural periodical work is the means of disseminating through the country practices which would be confined to the district which gave them birth. Its principal aim should be to be a good work, that is replete with suggestions of good sense, and with confirmation of experience. The collection and presentation of these desiderata is attended with much trouble and expense, and unless the labour is appreciated and encouraged,—and hitherto it has not been appreciated and encouraged as it ought,—it is impossible to use means to collect the most valuable kind of information for presentation.—*From the Quarterly Journal of Agriculture, No. xxxiii.*

The West Sussex Agricultural Association was held at the Council Chamber, on Wednesday at 12 o'clock, the Duke of Richmond in the Chair, when the Premiums for the ensuing year were declared; and it was notified that his Majesty had consented to become Patron, the Duke of Richmond President, the most influential Noblemen and Gentlemen in the neighbourhood Vice Presidents, and a Committee of manage-

TO THE EDITOR OF THE DEVIZES GAZETTE.

SIR,—In a former number of your paper, I perceive that a meeting was held at Malmesbury, for the purpose of considering the project of the ministers, to introduce a Rural Police.—It appears that the persons present expressed "suspicion and disgust" at the contemplated alteration; the present mode of appointing constables having, as they state, existed for centuries. They felt one unanimous sensation of "indignation," and "denounced the projected measure as an insidious and dangerous attack upon the liberty of the subject." Now, Sir, if you will be good enough to read the article just following that to which I have alluded, you will find that "The crime of sheep stealing is become alarmingly prevalent around the neighbourhood of Malmesbury; one farmer at Easton Grey, had ten fat sheep stolen in one night; and several others have lost two and three each;" and all this, mind, Mr. Editor, in the neighbourhood of Constables, who have been appointed, "after a fashion," for centuries past. I cannot help thinking that the "suspicion, disgust, and indignation," would have been better hurled at the old system, which does not, it appears, in their own localities, prevent serious and constant deprivations, than for the good people to vent their anger at merely a projected measure, which, come when it may, will be the result of due deliberation and inquiry. A little lower down, and beneath the articles above mentioned, I find, in one week's report, a long list of offences and offenders, and all the offences taking place in a comparatively small space of the county of Wilts, under the system which has existed for centuries past. Surely the inhabitants of Malmesbury should send with their memorial to the Secretary of State, your paper of the 24th instant, in order that the real value of the ancient system may be properly estimated. I will thank you to oblige me by the insertion hereof in your next paper, and am, Sir, your obt. servant. A CONSTANT READER.

TITHE COMMUTATION ACT.

The following Petition from several Landowners in the neighbourhood of Rochester, will be presented to the House of Commons, early in the next Session of Parliament.

To the Honorable the Commons of the United Kingdom of Great Britain and Ireland, in Parliament assembled.

THE PETITION OF THE UNDERSIGNED LANDOWNERS RESIDING IN THE COUNTY OF KENT,

Most respectfully Sheweth,

That your Petitioners having been induced, from the discussion which occurred in the House of Commons, upon the introduction of the Tithe Commutation Bill, to expect, that, as the Landlords in Ireland were considered to be entitled to a Bonus, for having their estates saddled with a Rent-charge in lieu of Tithes, the Landowners of England and Wales would have been granted a similar allowance, though perhaps, under existing circumstances, not to so great an amount. It is, therefore, with considerable disappointment your Petitioners find, that that principle was abandoned, and the Rent-charge fixed according to the value of the Tithes for the last seven years; thus entirely relieving the Tithe-owners from all future trouble and vexation, and entailing upon the Land-owners a charge, which, probably, will hereafter, in many cases, absorb nearly all the Rent.

That your Petitioners beg to call your attention to the 79th clause of the Act, as it will, probably, in

its operation, place many of them in a much worse position than heretofore; for should tenants under existing leases object to pay the Rent-charge, the trouble, inconvenience, and annoyance of taking the Tithes in kind will be transferred from the Tithes-owners to the Landlords. In cases of this kind, therefore, the perplexing situation of a Landlord, without the means of collecting the Tithes, and residing far from his property, must be obvious to every one; the consequence will be, that the Landlord will be placed, particularly the small proprietors, in a most vexatious and annoying situation, not only with regard to the great, but in a more embarrassing predicament with respect to the collection of the small Tithes; the result, therefore, in many cases, would probably be productive of considerable loss to the Landlords.

That about twenty-five or thirty years ago, a considerable quantity of land in consequence of the then high price of corn, was cultivated for its production; and as the cultivation of that species of land has always been attended with great expense, latterly with little or no profit, and in many instances with a loss; and as it is very probable, from the alteration of the Corn Laws, and other causes, producing a low price of grain, that much land of this description would cease to be cultivated; the continuance of a Rent-charge for the Commutation of Tithes, according to the calculated average as prescribed by the Act, would, to the Proprietors of land of this quality, be highly injurious.

Your Petitioners, therefore, request your Honorable House will be pleased to revise the Act for the Commutation of Tithes, so that before the law shall become compulsory, it may be enacted:—1st, That a *Bonus* be given to the Land-owners, as a remuneration for the risk imposed on them. 2ndly, That the Occupiers, on the same principle as heretofore, may be alone responsible for the payment of the Rent-charge. And 3dly, That land ceasing to be in tillage, may no longer be liable, as *arable* land, to the payment of Tithes.

And your Petitioners as in duty bound will ever pray,

THE TURNIP FLY.

[TO THE EDITOR OF THE METROPOLITAN CONSERVATIVE JOURNAL.]

SIR—Having seen a notice regarding this insect in your valuable Journal, and wishing for further information, I beg to send you the following simple and plain facts, which, though they may be unpalatable to some of our theoretical agriculturists, have been generally found strictly correct in my own experience. About nine or ten years ago I was walking over a turnip field, in which two sorts were sown, viz., Swedes and Globe. The Swedes were considerably grown, in fact had been hoed, the white were just coming into broad leaf, but seemed very much troubled with the fly. I observed the row of white next the Swedes in a very flourishing condition, and considerably larger and more healthy than the other part of the field sown with the white turnip. After thinking about the subject some time I could come to no other conclusion than that the fly had been disturbed by the skuffler that row, when hoeing the Swedes; and the year following I tried the following experiment, *which I found to answer every year since*. I began with the Swedes, which were sown first (and likely to be injured by the fly on making their appearance above ground,) by *skuffling* them immediately very close to the plant,

and leaving the plants very loose in the rows. That succeeded, inasmuch as the turnip flourished immediately after; but not being satisfied with that, as a little rain followed, I considered it perhaps might be the wet which had improved their appearance. However, I set to work with the white turnips, soon after they made their appearance, and which were attacked by the fly, the weather being very droughty. I procured a microscope, determined to watch those thieves, if possible; the skuffler was set to work, and after it had gone a few times about I examined the rows, but could make nothing out in the shape of a fly, with the exception of finding a solitary individual now and then, that had been covered with a small portion of soil making his escape as fast as possible, appearing, like all other thieves, not to relish disturbance. I then followed the skuffler as close as I could, and perceived the flies leaving the turnips, not for the adjoining row, but apparently a long flight. I was quite convinced that disturbance when they make their first attack on the plant, is the best mode of treating these gentry, and have followed it up every year with success, sending the skuffler up the rows as soon as the turnip appears above ground; and I have never yet had a failing crop, although sometimes my neighbours were forced to sow their turnips over again; it is an easy remedy, and if you think proper to make it public in your widely-circulated paper it is at your service, and may benefit others as it has myself.

I am, Sir, your obedient servant,
THOMAS AISKELL.

Redcar, Yorkshire.

TO THE EDITOR OF THE FARMER'S MAGAZINE.

SIR,—As a constant reader of your valuable periodical, (though not a contributor, I mean as regards matter,) I hope you will not consider me as encroaching when I ask a favour of you, which, by the bye, may be useful to the agricultural community at large. Being very fond of agriculture myself, I am wishful to advance and encourage every experiment which I can for the purpose of lessening the expenses consequent upon the occupation. I conceive that steam is a power which may be rendered of great service on the farmstead of any large occupier; with this view on my mind I considered that it might be a public advantage, if you could, by the aid of any of your Scotch correspondents, give an account in the Farmer's Magazine, of the sort of engine in use in the North as applied to the thrashing machine, straw chopper, &c., the probable expense of the engine, and the necessary kind of buildings, and whatever other information on the subject which you may be able to obtain, the saving of labour as compared with horse power, &c. If it is not in your power to obtain information on this subject, perhaps you would be kind enough to mention your inability in your next number.

Yours truly, R. F. P.

Doncaster, Jan. 23.

In Romney Marsh by the late snow, the loss is estimated by one sheep upon every five acres; thus calculating the marsh to contain 50,000 acres of grazing land, the loss must be at least 10,000. Mr. Smith, of Codrill, lost 400 out of 6000. Mr. Innes, of Stamford, lost 51 out of 148, and every statement that reaches us gives alarming accounts of the losses sustained by the various graziers.

AGRICULTURAL INTELLIGENCE, FAIRS, &c.

WARWICK FAIR, was well supplied with beef and mutton, which fetched from 6d to 6½d per lb, sinking the ofal. Stores met a very heavy sale.

OSWESTRY FAIR did not realise the expectations of the farmer in respect to the prices of cattle. A capital cow and calf could be had very low. Store pigs were very 'sharp' the first day, Tuesday. Fat pigs, 5d, 5½d; a remarkably good show of butter at 11½d per lb.

At **WINCANTON MARKET** two down ram lambs, the property of Mr. R. White, of Zeal's Farm, near the city of Wells, and Mr. Matthew Paul, of Compton Pauncefoot, in the county of Somerset, were exhibited in competition for 5l a-side, which was won by the latter.

PORTAFERRY FAIR.—We have much pleasure in being able to state that this fair, which took place on Tuesday last (being only the second of the monthly fairs lately established in this place), went off well; it gives promise of being equal to any of the old established monthly fairs of this neighbourhood. A number of black cattle changed hands, as well as horses; springing cows, and those at the calving, went in considerable demand, and brought high prices. Farming horses were, also, much in request, and met a ready sale at from 8l to 12l. Fat cattle were scarce; those fit for the butcher sold at 38s to 42s, sinking the ofal. Pigs much looked for; those in good order sold from 40s to 42s per cwt. Sheep scarce, and brought high prices. The premiums were paid, much to the satisfaction of those concerned.—*Downpatrick Recorder*.

HIGHLAND SOCIETY'S SHOW AT DUMFRIES IN 1837.—Mr. Borthwick of Crookston, from the Committee, reported the arrangements in forwardness for the General Show of Live Stock and Agricultural Meeting to be held in the ensuing autumn at Dumfries. By the liberality and promptitude of the Gentlemen of the district, the Premiums were long ago arranged and published, on a scale befitting alike the character which these meetings have assumed, and the importance of the district immediately concerned. Every thing, in short, is in the best state of forwardness, and the progress made in the improvement of their stock by the public spirit and intelligence of the agriculturists of the south-west, during the seven years that have elapsed since the Society's last visit, the Directors are informed is of the most marked description. The Meeting authorised the usual communication to be made to the Conveners of the Counties of Dumfries, Kirkcudbright, and Wigtown, in order to their naming at their meetings on 30th April, a committee of superintendence. Mr. Hope Johnstone, of Annandale, as on the former occasion, was named Convener of the Committee, and Mr. Maxwell, of Munshes, Deputy-Convener. Mr. Borthwick hoped the Noble Duke now present would afford the benefit of his influential co-operation on this as he did on the former occasion. The Duke of Buccleuch expressed the happiness it would afford him to do every thing in his power to forward the interests of the meeting at Dumfries.

ORDINARY MEMBERS ELECTED THIS YEAR FROM DUMFRIESHIRE.—James Stuart Menteth, Esq. yr., of Closeburn Hall; Rev. John Yorston, Minister of Torthorwald; John Barker, Esq., banker, Dumfries.

MONTREAL MONSTROSITY.—A Mr. Turner, a veterinary surgeon of Montreal, in the paper of that city, gives the following extraordinary narrative:—"Being sent for by Mr. Lilly, farmer, at the Cross, to render assistance to a cow, which had been labouring for some hours, and which a number of men had not been able to relieve, I found on my examination two

breaches presenting themselves, four hind feet and legs, two tails, &c., all of natural formation. I concluded at first that it might be a twin birth, and that the cow might be relieved without much trouble or suffering; but on making a sufficient effort I was apprehensive that something unnatural was the obstacle, and a more minute examination satisfied me that the calf was a monster, and could not be extracted without the death of the cow. As the cow was very fat, I advised Mr. Lilly to send for a butcher, and have her killed and dressed, which was done in a short time, when the whole mystery of the case became explained by the extraction of a bull calf, or rather two such calves united, having eight legs, two tails, two ears, two eyes, four nostrils, one mouth, and two bodies turned belly to belly, and completely united at the commencement of the sternum, or breast-bone forming only one thorax, with apparently but one set of thoracic viscera. None of the abovementioned are either diminutive or imperfect in their formation.

EXTRAORDINARY PRODUCTION OF MANGEL WURZEL POTATOES.—In a garden belonging to Mr. Thomas Edwards, Sen., of Lyhead House, near Bewdley, 23 sets of Potatoes produced 18 score 8lbs, and 14 Potatoes produced 14 score 8lbs, making together 32 score 16lbs. Some of these Potatoes weighed 3lbs 2oz each.

RIVAL BULLS.—A few months ago, two neighbouring farmers, residing in the village of Mickleby, near Whitby, the one named Robinson, the other Stonehouse, who are both in the habit of keeping bulls, made a bet of 10l each, respecting the weight of two three year olds then in their possession, which were, according to the articles drawn up, to be killed in the second week in January, 1837, and each being at liberty to feed as they chose. On Wednesday, the 11th instant, they were slaughtered, and on the Friday following weighed, when the result was as follows:—*Stonehouse*—Beef, 107st. 1½lb.; tallow, 12st. 2lb.; hide, 11st. 3lb.; total, 130st. 6½lb. *Robinson*—Beef, 102st. 4½lb.; tallow, 11st. 3lb.; hide, 9st. 9lb.; total, 123st. 2½lb. *Stonehouse* thus winning the wager by 7st. 3lb. The greatest excitement has prevailed during the few months the beasts have been feeding; and the village has been visited by many persons, both judges of stock and others, through mere curiosity, most of whom were inclined to back the winner. A great number of wagers were depending on the issue, and on the day of weighing, a large concourse of people were drawn together to learn the result, which was received by tremendous cheers.—*York Herald*.

DEATH OF CATTLE.—The following casualties occurred on the farm of Mr. Bowley, of Kingstone Field, within one week:—Three sheep died, one being lost in the snow; a heifer was drowned by the breaking up of the ice; a stirk died of inflammation, and a cow of some other disorder; and, on proceeding to his stable, Mr. Bowley found that a valuable mare was dead. On Friday, his shepherd was taken ill and died; and on the following day the shepherd's dog shared the fate of his master.—*Loughborough Telegraph*.

THE NEW MARKET, BRIDGEND.—This desideratum to the prosperous town of Bridgend is progressing rapidly, and by its neat and tasteful arrangement reflects the highest credit on the Architect. It stands on a plot of ground (the site of the old Tennis-court, and nearly opposite that mart of business the Post-office) in the form of a square, about forty yards every way. The communication to the body of the market is by two entrances, situate at the extremities of the front. On the left side of the upper entrance, and on the right of the lower, as well as along the extreme wall, are commodious sheds for the butchers, and between the entrances,

forming a smaller square, is the corn market, supported, like the shambles, on light and elegant cast-iron pillars. The front when finished will be ornamented with rustic pillars, railings, and handsome gates, and when the whole is completed it bids fair to be the best built, as well as the best arranged market-place in South Wales.

At the late Duke of Norfolk's annual cattle sale at Farnham, Suffolk, two steers, bred by Mr. James Quartly, of Molland, in this county, of Devon, and which gained the first prize as three-years old working steers at the Devon November Agricultural Meeting in 1835, were sold for *seventy-six pounds*; another steer, bred by Mr. Francis Quartly, of Molland, sold for *forty-three pounds*. It must be highly gratifying to the Agriculturists of this county generally, and honourable to the first-rate breeders of cattle at Molland, that his Grace the Duke of Norfolk entertains so high an opinion of the Devon cattle that he is supplied every year with a number of steers from Mr. James Quartly. We had an opportunity last week of seeing a fat Exmoor three-years old wether, and a six-years old ewe, bred and fed on grass only by Mr. James Quartly, which surpassed every thing of the kind ever exhibited in this county, quality for weight. They were taken to Southmolton for the Christmas market, and slaughtered by Mr. Coles.—*Flying Post*.

The general meeting of the Rutland Agricultural Society was well attended and business gone through with credit to the society. The report of the Secretaries was received with unusual warmth, it appearing that the *donations* received by them (for the ensuing year) amounted to no less than 68*l* 15*s*, with a further donation of 10*l* for 1838; also that there were *forty-six* new subscribers added to the list, which, together, amounted to 118*l* 15*s*. The society's bill this year contains the *unrivalled* sum of 213*l* 15*s*, with the addition of six silver medals for the encouragement of good breeding within its limits. The sweepstakes are open to all England.

LINNÆAN SOCIETY.—The ordinary meeting was held on Tuesday evening, A. B. Lambert, Esq., V.P., in the chair. The Chairman exhibited some specimens of a new variety of grape, sent to him by the Duke of Sussex from Kimmell-park, being about 4½ inches in circumference, or nearly the size of a small chesnut, the bunches weighing each from three to four pounds. Another specimen was sent by the Royal donor, which he considered to be a truffle in a state of petrefaction, from Mr. Coke, of Holkham, but in which opinion the Chairman differed, considering it some other geological production. From Mr. F. Bennett was also exhibited the produce of three plants from Takhti, one of which was there called the Golden fruit, another being a root, having a resemblance to our potatoe; as also specimens of cocoa-nuts and maple sugar, the produce of that island.

MONTHLY REPORT OF THE WOOLLEN TRADE.

LEEDS, JAN. 2.—If we had to complain of November as more than usually dull, it will not be matter of wonder that December was still worse. The only wonder to us has been, that it was not even more dull and gloomy than it has proved. So much and such intense interest has been drawn to the subject of our currency difficulties, that it seems almost unnecessary to name them as the principal causes of that depression which has now for more than three months shackled the Woollen, in common with almost every other trade of the country. These difficulties, however, assumed at the commencement of the month a very formidable aspect, and although the interposition of powerful aid averted the threatened storm, consequences of a minor

kind have followed, sufficiently trying to all parties. Of these consequences, the worst was, perhaps, the almost entire cessation of purchases, whether retail or wholesale. We have seldom known a more thoroughly flat period as to sales. The market was, in fact, deserted, and there seemed scarcely a disposition to try the temper, or to ascertain the difficulties of the holders of stock, until within the last eight or ten days. Within that period considerable sales have been effected, and, as the wholesale dealers cannot much longer hold off purchasing, there is every probability that a tolerable amount of business will be done during the ensuing month.

The opinion we gave last month, as to the buoyancy of the price of both cloths and wools, has been proved to be correct; indeed, the latter have rather risen than otherwise, and show a decided tendency upwards. Coarse wools have suffered a depression since August, which allow of cloths being bought in at prices which command sales; and both coarse and fine woollens are now at a level which it is hoped they will steadily maintain. We trust we shall not witness, with the return of more animated transactions, a rise similar to that which took place in the preceding spring, which, however profitable during its continuance, was of very questionable benefit ultimately, since it produced that reaction in the demand which had commenced prior to the embarrassment of the money market. We shall be most glad to see once more steady equable prices.

In our December report we expressed our belief that the worst of our financial difficulties was over,—it appears that we were mistaken. Since that was written, the Northern and Central Bank of England has met and passed through a crisis of extraordinary peril. We need not state afresh the facts of the case, as none of our readers are unacquainted with them. We allude to them in this place for the purpose of observing, that considering the length and severity of the pressure for money, it is surprising to see no greater defalcations have taken place, and that, *in this respect*, the recent monetary crisis is unparalleled in our commercial history.

Whatever defects there may be in the system of Joint Stock Banking, it has yet one element of superiority over that of private banking,—its comparative security from panics. We shall not now enter at length into the subject,—because we shall have again and again to return to it during the ensuing session of Parliament. The state of our currency and the principles of its management will form questions of serious and grave deliberation both in and out of Parliament, and we shall be prepared to give our views on both. We would offer a remark or two before dismissing the subject by way of caution. It has become fashionable with the Editors and Correspondents of the public prints, to abuse the Joint Stock Banks, and to laud the Bank of England. The one are all that is rotten and worthless—the other all but immaculate.

This is not a safe state of mind in which to enter upon the discussion of more stringent Banking regulations; and it is a state of public opinion, which, with all deference to some great authorities, is not justified by recent facts. The Joint Stock Banks have erred; but it is of the utmost importance that the precise error or errors which they have committed should be ascertained, and that the whole system should not be condemned, and any merit it may have been hastily overlooked. We are in danger of rashly legislating on the subject, and of overlooking, in our admiration of the wise and bold step taken by the Bank of England, the extent and the nature of that influence which the Bank monopoly exercises upon our monetary affairs. Bank parlour management is not faultless, and the constitution of the Bank is a palpable anomaly in our commercial system—at variance with all its analogies, and we are strongly of opinion, very injurious to our commercial interests. Let the whole subject be calmly considered and examined in all its bearings, and then some sound conclusion may be come at. At present it is seen only in one aspect, and apparently with the wish to look at it in no other.

REVIEW OF THE CORN TRADE DURING THE MONTH OF JANUARY.

In commencing a fresh era of time, the first month of a new year, we are prone to cast our reflections over the past, and review the various incidents which have excited or depressed our hopes and anticipations; to the agriculturist the fickleness of the season in our climate must ever prove the source of anxious solicitude, and the farmers therefore of all classes of men of business, have the most vivid points on which their memory can dwell, and which in their retrospective view come forth identified, in the mind's eye, almost in the very shapes they pre-existed. It is therefore with pleasure, that we can recall the proceedings of the year 1836 to their recollection, congratulating them on the improved aspect of the markets at the commencement of the present, compared with the gloomy prospects of the previous season; and notwithstanding the pressure of the monetary system, which has latterly been operating disadvantageously on the mercantile world, yet its chilling influence has by no means been experienced in a corresponding degree by the farming interest. The previous activity of commerce, which had gradually pervaded all classes, is now shedding its cheering and benign effects on agriculture, raising this important branch of trade from a state of great depression to one of comparative independence, by the increased consumption of its produce, which the improvement in commerce and demand for manufactured goods has created. The enhancement however experienced in the value of agricultural produce is perhaps best illustrated by a comparative view of the averages of grain throughout the kingdom from the commencement of each of the last seven years.

First week in Jan.	Wheat. per qr.	Barley. per qr.	Oats. per qr.	Beans. per qr.	Peas. per qr.
	s. d.	s. d.	s. d.	s. d.	s. d.
1831 ..	68 3	38 4	24 4	37 11	42 3
1832 ..	59 1	35 6	22 0	36 6	38 2
1833 ..	52 6	28 3	18 2	32 5	39 6
1834 ..	49 2	27 11	18 11	33 6	38 5
1835 ..	40 1	31 0	21 9	36 1	41 1
1836 ..	36 0	27 4	18 7	33 4	34 3
1837 ..	59 0	35 9	24 11	41 0	40 4

It should, however, be noted, that prices the beginning of January had materially receded from those of the foregoing month, having the first week in December ranged as follow:—

Wheat.	Barley.	Oats.	Beans.	Peas.
per qr.	per qr.	per qr.	per qr.	per qr.
s. d.	s. d.	s. d.	s. d.	s. d.
61 9	39 3	27 0	47 10	46 6

The aggregate average price of Wheat in the United Kingdom was for the year—

	s. d.		s. d.	
1836 ..	48	9	1835 ..	39 7
On the London Market }	51	1	.....	42 3

The weather throughout the greatest portion of the month has been gloomy in the extreme, depressing not only the speculative, but the animal spirits to the deepest degree, and the prevailing epidemic, so universal in its attacks, has contributed to render not only the corn trade, but all branches of commercial business, excessively languid and heavy. Collateral circumstances have also conduced to increase the dullness of trade, arising from the re-appearance of a pressure on the Money Market in connection with all mercantile operations, emanating from various minor failures, which, however, have been more detrimental to general traffic in maintaining a species of distrust, than from the pecuniary amount of the liabilities, though the feeling has been much strengthened by the temporary embarrassment of the old established banking establishment in Lombard-Street, of Messrs. Esdaile and Co. The probable effects which the inclemency of the weather and constant state of atmospheric humidity is likely to cause to agricultural proceedings does not yet seem to make any impression on the markets, though with a continuance of wet it is a subject which will begin to force itself into consideration. The lands generally are saturated with moisture, and too cold to work: and in low situations are so soft and swampy that they are rendered totally unfit for preparation to receive the spring corn. In many parts of the kingdom, and especially northward, field labour is nearly suspended, and the attention of the farmer has been directed to thrashing, which where the state of the roads and water communication have allowed the markets to be accessible, causes the supplies to come rather freely to hand, and prices have generally receded, especially of secondary descriptions and those out of condition, indeed latterly it has been difficult to find a sample not handling cold or soft. Farmers however seem still inclined to hold all their finer qualities of grain and which they are enabled to do, not only from the remunerative prices realised for all agricultural produce, but likewise from the fact that the monied interest hold agriculture at present in much better credit. The partial reduction of rent and poor rates, the adjustment of tithes, and the rise in all produce, convinced bankers that the trade was yielding a fair profit; the farmer also is becoming much less lavish

in his mode of living, assuming more the cautious, thrifty character of olden times, improved too in his reflective powers by the rapid progress in the education and intellect of the age, and therefore advances of money are more readily obtained, especially through the increased and improved system of banking establishments; and the agriculturist in many instances, has the satisfaction of feeling that he is not compelled to sacrifice his produce from the want of occasional pecuniary accommodation.

From the circumstances previously adduced, it will be evident that the trade throughout January has ruled extremely dull, and lately at declining prices. The gales of wind experienced off the coast at the close of December and early part of last month were attended with most calamitous results, both as to loss of property and life. Many cargoes of grain have shared in the fate, and it is roughly computed that upwards of 20,000 qrs of foreign grain and pulse, principally Barley and Oats, bound to our port have been either destroyed or so much damaged as to be lost to the trade, which had for the moment a certain degree of influence on the market, in communicating to it a firmer aspect. The state of the weather, however, had condition of the roads from the snow, and interruption in the water communication, caused both the London and country markets to be very thinly attended; and, in Mark-Lane, purchasers were shy of buying Wheat by the generality of samples offering, which arrived by land carriage, so much uncertainty prevailing as to the time of arrival of the bulks. The few parcels taken realized in instances 1s per qr more money, if dry and fine, but secondary and inferior sorts were very difficult of disposal though offered at lower money; as the month advanced, and the condition of the Wheat deteriorated, a slow dragging trade was experienced at a weekly reduction of 1s to 2s, and many parcels almost unsaleable at this decline; many millers having imported from the coast direct, have held off the market, unless a superior or selected sample was to be obtained; we must therefore note old and new fine Wheat 1s to 2s per qr lower, and other sorts 4s and even 5s, good red Kentish runs bringing 56s to 57s, and white 58s to 59s.

The recommendation of the President of the United States of America at the opening of Congress in consequence of the large amount of surplus revenue to remit the duty on the necessaries of life, and consequently, including the imports levied on corn, contributed in rendering the holders of Wheat firm in their demands; though it should have been recollected, that prices would probably recede at the American markets in proportion to the reduction made in the dues. During, however, the greatest part of the month the bonded market has remained devoid of much speculative interest considering the state of the American markets, and which leads to the conjecture that either confidence is not reposed in the trade of the United States, or a home demand is still anticipated, yet with the amount of Wheat in

store at Danzig and other ports, this feeling is not likely to predominate very considerably. We fear the Americans have themselves to blame that their strenuous efforts and recommendations to consign are not attended to, as suspicion naturally attaches to the circumstance that with such a *golden* return before them as is represented, they would themselves be induced to send orders for shipment on their account. The golden opportunity has not however been entirely lost sight of, as remunerative profits, to say the least, must have been cleared out of the enormous charges in too many cases levied on the consignees, which in instances is underrated in being calculated at 22s per qr. We have more than once hinted at the causes operating on the minds of *cautious* shippers, and believe the fact to prevail now to some extent. The few purchases made have been at rates varying from 39s to 43s for red, and 44s to 48s for Danzig as a quality.

The Flour trade has been languid throughout, and the top prices of town made qualities, though nominally unaltered, cannot be realized by 2s to 3s per sack; ship qualities are 2s to 3s lower than at the beginning of the month. The receipts of Foreign Flour into bond consisted of nearly 9,000 barrels; and a demand continuing for the West Indies, purchasers have been found at from 29s to 31s per brl.

The receipts of English Barley, though limited compared with the previous months, have, with the addition of above 12,000 qrs of Foreign Wheat, which have paid the duty of 6s 4d and 7s 10d, caused the supply far to exceed the demand. Maltsters finding a slow sale for their manufactured article, have bought very sparingly, quality holding out to them no inducement to exceed their immediate wants; prices of the finer descriptions have receded 1s per qr; but selected parcels of Chevalier for seed being extremely scarce, have fully maintained their previous quotations, and in instances brought even more money; distillers' sorts have met a heavy sale, the foreign qualities, being principally available for such purposes, have pressed on the market, and the quotations have given way fully 2s; while secondary and inferior parcels, or those weathered and out of condition have been difficult to quit at a reduction of 2s to 3s per qr. Foreign samples have brought from 28s to 36s, and extra fine, 37s to 38s.

The supply of oats from our own coast, and that of Scotland, have been limited, and from Ireland the receipts have not exceeded 33,000 qrs.; but of foreign 33,000 qrs. entered at 7s 6d and 9s 3d per qr.; some of the cargoes ex ship have paid the latter amount. At the commencement of the month the cold weather, and consequent improved demand for the article, had caused the trade to assume a firm aspect at enhanced prices: on the change, however, of the temperature, and the Irish oats arriving in a very unsatisfactory state, the trade became heavy, and dealers and consumers refrained from purchasing except to meet their immediate wants, and taking then only the fine fresh samples; secondary and inferior sorts of Irish becoming a complete drug on

the market, and hardly saleable at prices below their relative value. Many cargoes have been landed, in order to be worked into condition and rendered available for the trade. Prices of inferior qualities are likely to settle very low, as there is only a vent for a limited quantity of such descriptions, and the sole chance of rendering them marketable at all is by drying them very high, as to ship them otherwise from Ireland, is only to sacrifice property; a consideration which does not appear to have influenced the actions of some of the shippers of late; indeed the free on board trade has become quite nominal, arising entirely from the disgraceful if not nefarious conduct of some of the parties who have had contracts to fulfil. Several individuals who had sold towards the termination of the last year for forward delivery at lower rates than those to which prices afterwards advanced, have in completion of their contracts, shipped light inferior qualities apparently in instances the refuse of the markets, not even being at the expense of having them kiln dried and making an advance of fully 6d on the freights. Where therefore advances had been previously made on the faith of the shippers, serious losses have been incurred, the difference in the stipulations and realisations being so materially deficient. It is true the courts of law are open for the punishment of such chicanery, but the "cure is perhaps worse than the disease." Prices generally of the better descriptions of oats have suffered little depreciation in value, but other sorts are 1s to 2s per qr cheaper.

Bonded oats for spring delivery have met partial demand, and some sales have been made of Konigsberg and Stettin qualities at 12s to 13s; Danish, 13s to 15s; Friesland 13s to 18s as in quality.

During the month about 5000 qrs of beans and 2000 qrs of peas have paid the duties. The trade for both articles has ruled extremely heavy at declining prices, beans being fully 2s to 3s, and white peas 3s to 4s lower; grey and maple participating in the decline to the extent of 2s.

The duty on wheat has remained without alteration, but that of barley has advanced 3s per qr; on oats 1s 6d; on beans 3s; and on peas 4s 6d per qr.

During the month of January the following quantities of Grain and Flour have arrived in the port of London:—

	Wheat.	Barley.	Malt.	Oats.
	qrs.	qrs.	qrs.	qrs.
English	24,424	25,519	18,173	10,635
Scotch .....	..	925	..	10,385
Irish .....	..	215	..	32,701
Total in Jan.	24,424	26,659	18,173	53,924
Total in Dec.	30,675	55,255	23,016	77,186
Total in Nov.	36,029	56,624	21,921	110,423
Foreign in Jan.	5,750	12,322	...	13,011

	Beans.	Peas.	Linseed.	Flour.
	qrs.	qrs.	qrs.	sacks.
English	6,611	5,839	..	20,590
Scotch .....	..	..	..	200
Irish .....	..	..	..	..
Total in Jan.	6,611	5,839	...	30,790
Total in Dec.	6,394	6,247	60	39,628
Total in Nov.	6,737	6,701	260	41,414
Foreign in Jan.	802	1,961	2,606	brls. 8,723

The advices from Montreal report the Canadian markets firm for wheat, and the tendency of the flour trade was to advance; fine Upper Canada flour had obtained 41s 3d, and common brands free sale at 40s. On the 28th of Nov., floating ice had appeared on the St. Lawrence at Quebec, and the navigation was impeded. Only one vessel, however, was left in port, which it was not the intention to dispatch this season.

The abundance of the crops in the neighbourhood of Paris still seems fully adequate to the extensive demands which are experienced from the Southern Departments, a demand, however, which has latterly rather relaxed, owing to the impediments offered through the badness of the roads, and scarcity of vessels though it has not abated in Soissons or the markets of Upper Picardy. It is thought that when the supplies which have been retarded, arrive at Marseille and Bourdeaux, that dullness is likely to pervade the trade; while on the other hand it is maintained that the necessities of these districts are extensive and pressing, and the imports, however large they may be, will not cause any accumulation of stock sufficiently large to depress the trade. A number of losses on the coast are also represented as contributing to diminish the amount of the anticipated arrivals at the different places of destination. One merchant alone at Bochefort has lost wholly or in part, four cargoes which had departed from St. Valery the same day. It does not, therefore, appear likely that the surplus stocks in the circle of Paris will be found more than equivalent to meet the wants of the Centre and Southern Departments. At Marseille the exclusive duties still prevailing, and slow advance in the averages, affording little probability at present of the duties receding to a point to permit foreign importation, had caused the currencies of bonded corn to evince symptoms of giving way, more particularly as the advanced period of the season prevents shipments to the United States or the Brazils.

At Leghorn, the trade in grain remained very inanimate, the demand for England and America having subsided. Some small parcels of Beans had been received from the Southern coast and interior, and held at 32s 7d, the quality being fine. Bones were in request for France, purchases were making at 65s per ton, with a freight to England of 25s. At Trieste, the demand for Wheat, for America and Italy having continued, prices were fully supported: Italian and Odessa wheat being noted at 29s 1d to 39s 5d. The shipment of seeds continued to England, and as the anticipated supplies had not arrived, prices were improving. At Odessa, Wheat of best quality was worth 23s 7d to 24s 11d, good parcels, 19s 8d to 21s, hard Wheat of the best description, 22s 4d to 22s 7d. Oats, 9s 2d to 9s 6d. Linseed, 33s 6d to 38s 10d. The stock of wheat on hand was estimated at 169,200 qrs of soft, and 56,400 qrs of hard; and about 7,000 qrs of Oats, and the same of Linseed and Rye. At Taganrog the closing of the

navigation had rendered the trade quite stagnant, and not more than 21,150 qrs of hard Wheat on hand, which was held at 21s 8d; the roads, however, were soon expected to be in a condition to ensure supplies from the interior, when prices were expected to recede to a point sufficiently low to tempt speculation.

St. Petersburg being closed with ice, and the winter set in, little business was transacting. Kubanka wheat had realised from 31s 4d to 33s 11d; oats for spring shipment to England 11s 10d; rye 17s; Morschansky linseed had been contracted for deliverance in July and August at 37s 5d per qr. At Riga nothing was transpiring in grain from want of supplies. Courland wheat being noted at 31s 10d to 35s 4d per qr.; oats had been contracted for at 12s to 12s 8d per qr.; sowing linseed 26s 4d to 26s 5d per barrel. At Konigsburg the frost has set in, but the previous damp rainy weather had rendered the condition of the wheat very inferior, the cold drying weather was therefore required to render the samples more marketable. At Danzig the frost continued, and nothing of interest transacting in grain. The land samples appearing at market were many of them light, and much out of condition, and are to be bought 3s to 4s cheaper; but other descriptions are unaltered. The want of granary room which will prevail in spring, unless several thousand lasts are shipped off at the first open water, a circumstance not at present likely to ensue, granary rent must range exorbitantly high. Quotations remain nominally unaltered of the finer qualities. In the lower Baltic ports prices of wheat remain without variation and want of supplies prevent actual business from being transacted. Barley is dull, but being scarce, the finer qualities are held still at high rates; oats rather neglected, and might be bought lower. At Hamburg the Elbe was still frozen, and prices of wheat unaltered, with little business passing; new marks wheat of 62 to 62½lbs, was held at 26s to 36s 6d with one-third to one-half the amount advanced. The stock of wheat on the 31st of Dec., for the last three years was—

1836	1835	1834
Qrs.	Qrs.	Qrs.
46,000	56,000	80,000

The quantity exported to America in 1836 did not exceed 23,000 qrs. Barley met enquiry at 23s, for the finest new Upland, but holders are demanding 23s 6d and 24s 6d for Saale. The stock of barley on the 1st of January did not exceed 14,000 qrs. The shipments from Hamburg to America have been large of wheat, amounting nearly to 23,000 qrs, while to England they have been only 13,500 qrs during the past year. Of barley the exports to this country have amounted to nearly 22,000 qrs.

The crop of wheat in Holland having been considerably below an average both in produce and quality, combined with the demand anticipated from the United States, had led to the belief at Rotterdam that prices were likely to range high; in addition to which the unfavourable weather experienced since harvest had caused much less wheat to be sown than usual. Rhenish wheat was noted at 37s to 38s 9d, of 62 to 63lbs., but these weights were becoming scarce, and orders for shipment could not be executed above 61 to 61½lbs: Rye in request for America at 24s to 25s.

The advices from the United States are up to the 31st of December. At New York the flour trade had rallied owing it was stated to the advanced range in the prices of wheat in the European markets, and 10 dollars 25 to 50 cents. were demanded for Western Canal; rye-flour scarce. The arrivals

of foreign grain had augmented, and amounted to 80,000 bushels, of which about 20,000 bushels had been sold. The last sales effected of Danzig were 2 dollars 8 to 12 cents. per bushel, and in one instance 2 dollars 17 cents. At Baltimore flour was firm, 10 dollars 50 cents. for Howard-street qualities and at 10 dollars city mills. Prime Maryland wheat was worth 2 dollars per bushel, and German red 2 dollars 5 ditto, white 2 dollars 10 cents.; cloverseed was in request at advancing prices: 7 dollars 62½ to 88 cents. per bushel being demanded. At New Orleans flour was meeting a fair demand, at 9 dollars 25 to 50 cents. per barrel, and little remaining either at the landing or in store.

CURRENCY PER IMPERIAL MEASURE.

	BRITISH.		JAN. 1.		FEB. 1.	
	s.	s.	s.	s.	s.	s.
Wheat, red, Essex, Kent, Suffolk.....	60	64	59	62	59	62
White.....	52	66	52	64	52	64
Norfolk, Lincolnshire and Yorkshire....	40	58	40	56	40	56
White, do. do.....	46	62	46	60	46	60
West Country Red.....	—	—	—	—	—	—
White, ditto.....	—	—	—	—	—	—
Northumberland and Berwickshire Red	—	—	—	—	—	—
White, ditto.....	—	—	—	—	—	—
Irish Red.....	—	—	—	—	—	—
Ditto White.....	—	—	—	—	—	—
Barley, Malting, new.....	36	40	35	39	35	39
Chevalier, new.....	38	41	38	41	38	41
Distilling.....	32	35	31	35	31	35
Grinding.....	28	31	27	30	27	30
Irish.....	24	30	24	30	24	30
Malt, Brown.....	47	52	47	52	47	52
Ditto, Chevalier.....	64	63	64	62	64	62
Ditto, Norfolk and Suffolk Pale.....	54	61	54	60	54	60
Ditto Ware.....	61	62	61	61	61	61
Peas, Hog and Grey.....	36	38	34	36	34	36
Maple.....	36	38	36	36	36	36
White Boilers.....	38	45	38	41	38	41
Beans, small.....	41	48	40	44	40	44
Harrow.....	41	46	41	46	41	46
Ticks.....	38	45	38	42	38	42
Mazagan.....	36	40	36	40	36	40
Oats, ENGLISH feed.....	26	28	25	28	25	28
Short small.....	27	29	27	29	27	29
Poland.....	29	30	29	30	29	30
Scotch, Common.....	23	25	23	25	23	25
Berwick, &c.....	28	30	28	30	28	30
Potatoe, &c.....	29	31	29	31	29	31
Irish, Feed.....	23s 0d	25s 0d	17s 0d	26s 0d	17s 0d	26s 0d
Ditto Potatoe.....	24s 0d	27s 0d	21s 0d	27s 0d	21s 0d	27s 0d
Ditto Black.....	20s 0d	25s 0d	18s 0d	25s 0d	18s 0d	25s 0d

PRICES OF FLOUR,

	Per Sack of 280 lbs.		JAN. 1.		FEB. 1.	
	s.	s.	s.	s.	s.	s.
Town-made.....	50	55	50	55	50	55
Norfolk, Suffolk, Kent, and Essex....	44	48	43	47	43	47
Sussex and Hampshire.....	42	46	42	45	42	45
Superfine.....	47	—	46	—	46	—
Lincolnshire, Yorkshire, and Stockton	44	46	41	45	41	45
Northumberland, Berwick, and Scotch.	42	45	42	44	42	44
Irish.....	42	48	42	48	42	48
Extra.....	50	—	50	—	50	—

An Account of the Quantity of Grain and Flour imported into the United Kingdom during the month ending the 5th Jan., 1836; the Quantity on which the Duty has been paid for Home Consumption, and the quantity remaining in Warehouse.

	Wheat.	Barley.	Oats.	Rye.
	qrs.	qrs.	qrs.	qrs.
Quantity imported....	5,813	37,906	28,878	86
Do. entered for home consumption.....	1,403	66,570	59,737	..
Do. remaining in warehouse.....	574,239	5,256	214,230	6,805
	Peas.	Beans.	Maize.	Flour.
	qrs.	qrs.	qrs.	cwts.
Quantity imported....	17,971	1,589	..	21,100
Do. entered for home consumption.....	23,954	19,574	2	3,100
Do. remaining in warehouse.....	3,053	7,338	18	174,898

IMPERIAL AVERAGES.

Week ending	Wheat.	Barley	Oats	Rye	Beans	Peas
9th Dec.	60 4	37 4	26 5	11 45	9 43	2 11
16th "	60 6	36 9	25 5	13 44	10 42	2 11
23rd "	59 2	35 6	24 10	13 43	11 42	2 11
30th "	58 9	35 4	24 6	12 10	12 40	3 40
6th Jan.	59 0	35 9	24 11	14 6	11 40	4 40
13th "	59 6	36 1	24 6	13 9	11 40	4 40
Average of the six weeks which regulates the duty.....	59 6	36 1	25 1	14 2 11	11 43 3	41 8
Duties payable in London till Wednesday next inclusive, and at the Outports till the arrival of the Mail of that day from London.....	27 8	7 10	9 3	6 0	5 0	8 0
Do. on grain from British possessions out of Europe....	5 0	0 6	0 6	0 6	0 6	0 6
Foreign Flour, 16s 8d per 196lbs. British Possession do. 3s per 196 lbs.						

Amount of GRAIN, SEED, and FLOUR, which have paid Duty at the principal ports of England, during the year 1836.

12 Months, ending 31st Dec. 1836.	Lon-don.	Liver-pool.	Bristol	Hull.	Totals.
	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
Wheat, British Possessions.....	2622	11677	..	..	14299
Do. Foreign ..	634	290	30	10	964
Barley	39638	4122	882	8175	52817
Oats	45612	2693	..	71334	49646
Beans	15551	14488	1787	15729	47558
Peas	16735	20686	1135	10805	49361
Linseed.....	156621	24396	1592	140435	323044
Rapeseed.....	11765	285	..	50626	62676
Flour, East Indies ..	8190	14004	..	..	22194
Do. Brit. Posses.	21	2589	..	..	2610
Do. Foreign	22	1136	..	..	1158
Cloverseed	35781	6058	479	17383	59701

PRICES OF SEEDS.

JAN. 23.

The receipts of Cloverseed during the week have been 205 bags from Rotterdam, 195 bags, and 55 casks from Hamburg, and 304 bales from Calais. The trade was extremely heavy, and though no alteration was noted in the prices of English red, yet the quotations were almost nominal. To force the sales of foreign, lower rates must have been submitted to. White remains unaltered. Trefoil dull. Linseed hangs on hand at last week's quotations. In Rapeseed little doing. Caraway, Coriander nominally unaltered. Canary meets very limited enquiry at 42s to 44s. Mustard seed supports previous prices. Tares heavy sale. Linseed cakes 5s per ton lower.

PRICES OF HOPS.

JAN. 23.

Very little business has been transacted in Hops during the past week—the dense atmosphere with the prevailing illness, has thrown a gloom on the market—though the prices remain unaltered.

PRESENT PRICES.

	£ s.	£ s.	£ s.
East Kent, Poekets, fine.....	4 10	5 5	fine 7 0
Bags do.....	4 4	4 15	5 18
Mid Kent Poekets do.....	4 2	4 15	6 6
Bags	3 10	4 10	5 12
Weald of Kent Poekets.....	3 10	4 10	5 2
Sussex, Poekets.....	3 10	4 4	4 15
Yearlings	2 10	3 3	4 4
Old olds	1 1	1 10	2 2

POTATOE MARKET.

SOUTHWARK, WATERSIDE, Jan. 23.—The receipts of Potatoes coastways from Scotland and Yorkshire, have been on a very limited scale. From Jersey about 320 tons have arrived; but by barges from Essex and Kent, and by land carriage from neighbouring counties a great many white Potatoes have come direct into the retailer's hands; in consequence of the prices at the waterside ranging too high, several of the dealers have gone into the country, and purchased on their own account, and which now arriving, in addition to the mild weather, has rendered the trade with the salesmen extremely languid this morning, at a reduction of 5s per ton. We have before alluded to the fact, that a change in the weather causes material fluctuation in the Potatoe trade, and the demand is also at present partially checked by bread being on a par with, or cheaper than Potatoes; and the coarser food of coarse is only taken as an alternative by the poorer classes.

Per ton.	Per ton.
Yorkshire reds.....85s to 90s	Essex Whites.....60s 75s
Scotch do.....80s 85s	Jersey & Guern. blue —s 80s
Devonshire do.....85s 90s	Do. whites.....—s 75s
Kidneys.....—s 90s	Chats.....—s 45s
American natives.....—s to —s	No Irish at market.

BOROUGH AND SPITALFIELDS MARKETS.

WARE.	Per Ton.	MIDLINGS.	Per Ton.
	£ s. £ s.		£ s. £ s.
Scotch Reds.....	4 10 to 5 0	Scotch Reds ..	4 5 to 4 10
Marsh Champ.....	4 0 4 10	Marsh Champ... 3 10	4 0
Common reds.....	4 0 4 10	Common reds ..	3 10 4 0
London whites ..	3 10 4 0	London whites ..	3 0 3 5
Shaws	3 5 4 5	Shaws.....	2 10 3 0

Chats, 11 10s to 11 15s per ton.

WOOL MARKETS.

BRITISH.

Per lb.	JANUARY 1.		FEBRUARY 1	
	s. d.	s. d.	s. d.	s. d.
Down Tegs.....	1 8 to 1 9	1 8 to 1 9	1 8 to 1 9	1 8 to 1 9
Half-bred do.....	1 9½ 1 10½	1 9½ 1 10½	1 9½ 1 10½	1 9½ 1 10½
Ewes and Wethers	1 5 1 6	1 5 1 6	1 5 1 6	1 5 1 6
Leicester Hogs	1 5 1 6	1 5 1 6	1 5 1 6	1 5 1 6
Do. Wethers	1 2 1 3	1 2 1 3	1 2 1 3	1 2 1 3
Blanket Wool.....	0 8 1 4	0 8 1 4	0 8 1 4	0 8 1 4
Flannel.....	1 2 1 9	1 2 1 9	1 2 1 9	1 2 1 9
Skin Combing	1 2 1 6	1 2 1 6	1 2 1 6	1 2 1 6

WAKEFIELD, Jan. 20.—In long wool prices continue rather to improve, but purchases are confined to those who are actually out of stock, and obliged to come to market for immediate requirements. Others not so circumstanced, not feeling confidence in the establishment of the late advance, prefer waiting until they are nearer run out of stock. Short wool fully maintains the advance recently reported, but not much has been done in it this week.

EXETER.—Were it our practice, like some wise-acres, to endeavour to impose upon our readers the over-flowings of sheer ignorance, if not something worse in place of facts, we should say, there were such and such terms offering for this article; but as our desire is to inform, and not abuse that confidence which to such an extent has been placed in us, we have to state, that 13d per lb was on this day again given for yolk wool. It is true this was singular rather than general, and in the very teeth of deep complaint as to the state of the market, or rather want of a market for piece goods. As

may be supposed, however, on lower terms business was not to be done, but at 13d the sale of several parcels took place. Washed wools are from 15d to 16d; and Dorset horn, 16d to 17d per lb. In sorts, the late advance is likewise maintained, and we must quote Kent head, from 11½d to 12d; red, green, and pinions, from 12¾d to 13d; fell combing, 14½d to 15d; fine head, 15d to 15½d; Cornish stripe, 16½d to 16¾d; North Devon stripe, 16¾d to 17d; tops, (river washed), 20d; ditto, (soap washed,) 20½d per lb.

LEICESTER.—The wool market continues active, and higher prices have been given to the grower. The stocks of long wools are small in the hands of the dealers. Short wools have not improved in price in an equal degree with long wools, and are but little in request.

NEWTON.—Wool seems advancing; 13½d has been refused, though the wool staplers do not seem inclined to give more.

LIVERPOOL.

WEEK ENDING JANUARY 23.

ENGLISH WOOLS have been in fair request. Fleece and broke wools for combing have realized good prices, and the transactions in them have been pretty extensive. The accompanying quotations have been well sustained.

Current prices per lb.—Down ewes and wethers, 18½d to 19½d; Down tegs, 20d to 21d; combing fleece, 19d to 20d; combing skin, 17d to 19d; super. skin, 17d to 18½d; head skin, 15½d to 16¾d.

SCOTCH WOOLS.—This has been a quiet week in the Scotch Wool Market. Two or three parcels of laid Highland have been sold at full prices; in other sorts we have heard scarcely of any business being done. Prices remain very firm, and some holders are sanguine as to further improvement.

	per stone of 24lbs.		
Laid Highland Wool, from 12s	6d	to	13s 0d
White do. do.	15s 0d		16s 0d
Laid Crossed do.	15s 0d		16s 0d
Washed do. do.	16s 0d		17s 0d
Laid Cheviot do.	18s 0d		20s 0d
Washed do. do.	26s 0d		28s 0d
White do. do.	32s 0d		36s 0d
Import for the week	82 bags.		
Previously this year	428 do.		

IRISH WOOLS continue in considerable request. The prices at which wethers are selling in Dublin preclude their being sent to this market in sufficient quantities for the demand. The accompanying prices for that description have been therefore readily obtained.

Current prices per lb.—Irish fleeces, mixed lots, 18d to 19d; Irish wethers, 18d to 18½d; Irish hogs, 18½d to 19½d; Irish combing skin, 15d to 16d; Irish short skin, 13d to 16d. Imports this week, 79 bags; imports this year, 75 bags.

FOREIGN WOOLS have partaken of the improved activity which has recently manifested itself. In Peruvian, Russian, and Mogadore, there have been some large sales, which have commanded good prices. The import of the week amounts to 685 bags.

Current prices per lb.—Russian wool, 8d to 9d; Odessa, fine, 1s 9d to 3s 3d; Buenos Ayres, 4d to 5d; Mogadore and Barbary, 4d to 6d; washed Peruvian, 12d to 14d; unwashed ditto, 9d to 10d; Portugal R., 1s 4d to 1s 6d; ditto, low marks, 11½d to 1s 1½d; German fleeces, 2s to 2s 3d; ditto assorted, 2s 3d to 2s 6d; ditto lambs, 2s 3d to 3s 3d; Spanish R., 2s 3d to 2s 6d; ditto F S, 2s to 2s 2d; New South Wales, 2s to 2s 9d. Imports this week, 685 bales; previously this year, 489.

SCOTCH.

Per Stone of 24 lbs.	JANUARY 1.		FEBRUARY 1.					
	s.	d.	s.	d.				
Laid Highland Wool, from.	12	6 to 13	6	12	6 to 13	0		
White Do. Do.	16	0	17	0	15	0	16	0
Laid Crossed Do.	16	0	17	0	15	0	16	0
Washed Do. Do.	17	0	18	0	16	0	17	0
Laid Cheviots.	19	0	21	0	18	0	20	0
Washed Do.	26	0	28	0	26	0	28	0
White Do.	32	0	36	0	32	0	36	0

FOREIGN.

JAN. 23.

Since Monday last, the supplies have amounted to about 2720 bales from Germany, Spain, Russia, the Cape of Good Hope, and Turkey.—The quantity of Wool announced for sale this day, the 24th, 25th, 26th, 27th, and 28th inst. has been increased to 7,333 bales of, chiefly, Colonial, Russian, German, Spanish, and Italian Wools.—The attention of the trade being almost wholly confined to the approaching sales, exceedingly little business has been transacted, during the week, by private contract, at barely stationary prices.

Electoral Saxony wool, from 4s 6d to 5s 6d; first Austrian, Bohemian, and other German wools, 3s to 4s; second do., 2s to 2s 6d; inferior do. in locks and pieces, 1s 6d to 2s; do. lamb's do., 2s 6d to 3s; Hungarian sheep's do., 2s to 2s 6d; Leonesa sheep's do., 2s 6d to 3s 4d; Segovia do., 2s to 3s; Soria do., 2s 4d to 3s; Caceres do., 2s 6d to 3s; Spanish lamb's wool, 1s 6d to 2s 6d; German and Spanish cross do., 2s 4d to 3s 4d; Portugal sheep's do., 2s 4d to 2s 10d; do. lamb's do., 1s 4d to 2s 6d; Australian, fine crossed do., 2s 4d to 3s 6d; do. native sheep's do., 1s 8d to 2s 8d; Van Diemen's Land native sheep's do., 1s 6d to 2s 6d; Cape of Good Hope do. 1s 6d to 3s.

BONES.

Since our last there have passed the SOUND or ELSINORE, the GREAT BELT, and the HOLSTEIN CANAL, ships loaded with Bones, bound for Hull, 1; and for Arbroath, 1.



C H A M P I O N .

The property of Mr. Keith of Netherthurd, Aberdeenshire, exhibited at the meeting of the Highland Society held at Perth (1837), 655c

London Published by J. Rogerson, March 16 1837

THE FARMER'S MAGAZINE.

MARCH, 1837.

No. 3.]

[VOL. VI.

THE PLATE.

The Horse CHAMPION, the subject of the Plate, is the property of Mr. Keith, of Netherthird, Aberdeenshire: he is an entire Horse, will be six years' old in the beginning of June, stands $16\frac{1}{2}$ hands high, and is of a rich dark brown colour. He is of the Clydesdale breed. Mr. Dick, the Veterinary Surgeon, of Edinburgh, measured his fore leg between the knee and the fetlock joint, which proved to be $11\frac{1}{4}$ inches round. This gentleman stated that he had never seen a horse which possessed such strength. His symmetry is pronounced to be altogether complete. Most of our readers will doubtless be aware that Clydesdale is a district in the county of Lanarkshire, in the west of Scotland, which has long been celebrated for its breed of draught horses. Mr. Keith farms upon a large scale in Aberdeenshire, and has for many years exerted himself to obtain the purest blood and most perfect animals of this breed, and we believe it is not saying too much to assert, that he has been eminently successful, and that none of the most spirited breeders can surpass, and but few, if any, equal his stock. The selection of this horse affords ample proof of his judgment, no instance having ever come under our notice in which an animal had stood competition so often and with such success. In the autumn of 1834 he was exhibited at the Highland Society's shew, at Aberdeen, and obtained a premium of 30 sovereigns as "the best three years' old entire cart colt." In the spring of 1835 he was exhibited at a competition of stallions in Kincairdenshire, and again bearing away the palm, obtained a prize of 45 sovereigns. In the spring of 1836 he gained a premium of 15 sovereigns at an Agricultural shew in Lanarkshire; and lastly, a premium of 20 sovereigns was awarded to him at the Highland Agricultural Society's shew at Perth, in October last. Prizes, amounting to 110 sovereigns, obtained by a horse not yet six years' old, and without ever having been beaten, is a circumstance which occurs but rarely.

N. B.—We are authorised to state, that Mr. Keith would have no objection to dispose of CHAMPION if an eligible offer were made for him. Any Agricultural Society, or private individual, desirous of improving the breed of horses in a particular district, would find this horse invaluable for such a purpose.

THE CORN LAWS.—A FIXED DUTY CONSIDERED.

TO THE EDITOR OF THE FARMER'S MAGAZINE.

SIR.—As the farming interest now becomes a matter of serious consideration in consequence of Mr. Clay's motion for the 16th of March, for the repeal of the protection the agriculturist now receives, I have taken the liberty of addressing a few of my ideas on that subject to you, being convinced it is the imperative duty of every one however influential or however humble, at all connected with agriculture, to use their best exertions in a cause of such vital importance. Mr. Clay's motion goes to the total repeal of the corn laws, I should suppose such an extreme measure cannot be carried, but may probably merge in a proposition for a permanent duty or a modification as it is called of the present system.—According to the present aspect of political affairs, should a fixed duty be resolved upon, I cannot assume that duty at more than 12s per quarter for wheat,—looking at the question when wheat is dear here and a foreign supply indispensable, that duty would act as direct prohibition until all other countries should be amply supplied. Take France for instance as the country next to ourselves in want of foreign wheat and changing no duty, the price of wheat here at 80s per quarter, it appears to me that

France must be supplied to reduce the price there below 68s per quarter, before a single grain can come to this market; and if all other countries act upon the same principle, England must be the last country to be supplied, and if any deficiency arises to suffer most from that deficiency. I have dwelt on this part of the subject to shew the evident impolicy of a fixed duty; and that difficulty cannot be got over unless you contemplate a power somewhere—(I should suppose in the Privy Council) to set aside the duty when they see a necessity for it. *The principle then of a fixed duty is not only gone, but you place in the power of men, their prejudices, their interest, their theoretic views, or their want of knowledge to do that which according to the present law, the price of corn itself does: and I am sure all those who recollect the consequences of the privy council under the late Mr. Canning's administration, with a fancied notion of a scarcity, admitting 800,000 quarters of foreign wheat when not at all wanted, will dread placing in their hands any such power, for it reduced the price to the British farmer to a very losing one, while it made a market to the foreign farmer for his produce, and realized a considerable profit to the speculator in foreign grain; when the speculator in British grain acting on the faith a law established, was subject to great loss. Looking at the question when wheat is bearing a moderate price, say from 55s to 60s per quarter, the*

present law would act as a direct prohibition ; while an unlimited importation at only 12s per quarter, would inundate the markets of this country, reduce the price very low, and bring all the weak farmers at least to extreme distress. It is an argument with some that according to the present law, the corn imported pays little or no duty, and that by fixing 12s per quarter on wheat, you make a great gain to the revenue. If no more corn came in than was wanted, no one will deny that 12s per quarter would be better than 6s, the duty now paid on the average.—Admitting the annual supply of foreign wheat necessary to be 1,000,000 quarters, you would gain in duty 300,000*l*, and that is all the safe gains you can make ; but with ports always open who will say that 3,000,000 quarters cannot come in one year, you then gain a duty of 900,000*l* ; then taking the annual supply of English and Irish wheat at 18,000,000 quarters, and the difference in price from this overwhelming supply of foreign wheat at only 7s per qr. (which I believe to be much under the mark) you lose the British farmer 6,300,000*l*—if this is not penny wise and pound foolish I know not what is : and let those who look to an advantage to the revenue from a duty on foreign corn, remember that the advantage thus derived is from a small part of the supply ; while the depreciation occasioned by an unlimited importation, acts upon the larger part of the supply, viz., the produce of this country. There must be assumed some price as a remunerating one to the British farmer on an average of seasons ; and to make this point still clearer, I will take a period when the supply of British wheat is fully equal to the demand, and giving just a fair price—then let 1,000,000 quarters of foreign wheat be admitted, paying a duty of 12s per qr, that will realize a sum of 600,000*l*, and as few people will deny that supply and demand regulates the price, and that an over supply will reduce the price, therefore taking that reduction at only 1s per qr on 18,000,000 quarters, the loss to the farmers will be 900,000*l* ; thus the farmers lose what the revenue gains, and 300,000*l*, besides. I have stated 1s per qr to shew that by grasping at an advantage from duty, how small a depreciation acts injuriously to the farmer.

The same view of the case will extend to the advantages calculated to be derived to the manufacturers of this country, by a more extended importation of foreign grain, I think I have shewn to demonstration. When that importation is much pressed beyond the making up deficiencies of our own growth, the loss upon the whole supply of British corn, must be such as to cramp the home market and injure the manufacturing interest, in a greater proportion than any advantage they can derive from the introduction into this country of foreign grain. With respect to a modification of the present system of corn laws, a very few words will suffice. If any one point is given up—if these political economists are allowed a fulcrum on which to place their levelling lever, depend upon it they will never rest until the farming interest is laid prostrate ; and here let it be observed, that men must have some criterion on which to rent lands or buy them, and on the faith of legislative acts they do act, but if from the theoretic schemes of political economists, or appeals to popular favour, our important interests are to be tampered with, it makes that interest the supply of food for man, which ought to be upon a fixed foundation—a complete lottery ; and let those who are disposed in trying their theo-

retic schemes to tamper with the farming interest, remember that a farmer cannot be brought to straightened circumstances, poverty, or ruin without his land going on in something like the same ratio of poverty and unproductiveness with his means, and thus you not only ruin individuals but you permanently decrease the supply of British corn, and should this decrease, from the cause I have stated, be met by an unproductive season here, and also from abroad, nought but famine would stare us in the face, or at all events, extreme high prices. As the object of sound and honest legislators on this subject ought to be to secure to the British consumers their food at a moderate price, the principle of the present corn laws is the best that can be adopted for that purpose. As I said before, it is not the opinions of men, but the price of corn that acts upon the duty and the supply, and as the price here increases allows increased facilities for the foreign supply coming in, and when the price becomes at all high, admits the foreign wheat at a nominal duty, which I contend is perfectly right, for though it may be a small loss of duty, it is cheaply purchased by acting as a bounty on importation, and securing an early and prompt supply when wanted, and when the supply of British and foreign corn so meet, as to bring the price to a moderate degree, it leaves, or at least ought to leave, the British farmer his market to himself, and if that is not the case, the fault is not in the framers of the law, but in the executors of it. I was about to state that no man in his senses could say that this country ought to depend entirely on foreign grain for its support, had not Mr. Hume's declaration stared me in the face. Would a man receive great credit, if he stated that we might safely rely on foreigners for half our supply ?—I think not. One truth is plain, and it is an important truth, that while the British farmer can supply the home market at a moderate price, scarcity and famine are effectually guarded against. When the present law passed, in 1828, it was well understood that 60s per quarter was to be considered the remunerating price to the British farmer ; this law has been in operation now, nine years, and it has given to the consumer an average much below 60s, and this has been accomplished by the farmers acting on the faith of a law established, laying out their capital freely, and using the best exertions of their skill and industry. Some agricultural distress-mongers may not give me credit for what I am going to say, viz.—that it must have been from an increased production consequent on improvements, that the farmer has been enabled to supply the country at the moderate price it has, and keep his head above water. As it is impossible that a great supply can come in of foreign corn for a long period, without displacing something like the same quantity of British corn out of the market, ought it not to occur to these free trade liberalists that an extraordinary pressure on the foreign market for a large supply for this country, must enhance the price abroad, and having weakened the home depot (if I may so express myself) by driving out of cultivation the inferior lands, will not the foreigner, say, you want a large supply, — you must have it, and we will make you pay very dear for it, or starve you into compliance ? Thus the country will find that losing sight of that-wise maxim of endeavouring to secure their food at a moderate price, by keeping up the supply of the home market, they have run after that Will-o-the-Wisp of present very low prices, and ultimately

thrown themselves into the hands of the foreign and British capitalists who will prove to them hard task masters. That there is some part of the present system liable to objections, I have no doubt—this, at any rate is not the period to urge them. The oft repeated remark, that if any alteration is made, it is sure to be worse for the farmer, is a sufficient answer to any objection that may be made; and, Sir, being firmly convinced that a repeal or modification of the present system of corn laws, will lead to fearful derangement of the farmer's interest, without permanently benefiting the country, I trust the utmost exertions will be used to stop at once and for ever the agitation of this question.—I am Sir, your obedient servant—

GEORGE MAW.

Walk House, Feb. 11.

POOR LAWS—IRELAND.

REPORT.

TO THE RIGHT HON. LORD JOHN RUSSELL, HIS MAJESTY'S PRINCIPAL SECRETARY OF STATE FOR THE HOME DEPARTMENT.

London, Nov. 13, 1836.

MY LORD,—1. I proceeded to Ireland in conformity with your lordship's instructions, bearing date the 22d of August, and after having had an interview with his Excellency the Lord Lieutenant and Lord Morpeth, and having carefully inspected the House of Industry and the Meadicity Institution in Dublin, and obtained such other information there as seemed necessary, I proceeded to visit Carlow, Kilkenny, Thurles, Cashell, Tipperary, Cloumel, Cork, Killarney, Limerick, Galway, Connemara, Westport, Castlebar, Ballina, Sligo, Enniskillen, Armagh, and Newry,—everywhere examining and inquiring, in the several towns and districts through which I passed, as to the condition and habits of the people, their character and wants; and endeavouring to ascertain whether, and how far, the system established in England for the relief of the destitute is applicable to the present state of Ireland.

2. The above route appeared to be most eligible, with reference to this inquiry, because the inhabitants of the manufacturing and commercial districts of the north and the east approximate more nearly to the English than those of the south, west, and central parts of Ireland. To the latter, therefore, it seemed advisable to direct my attention in the first instance; for, if the English system of poor laws should be found applicable to them, there can be no doubt of its applicability to the northern and eastern parts of the country.

3. I have not failed to attend likewise to the other points adverted to in your lordship's instructions; and I have carefully considered the several reports of Committees of Parliament on the state of Ireland, as well as the reports of the late Commissioners of Irish Poor Inquiry, and the evidence collected by them. This evidence establishes so conclusively the existence of a state of poverty throughout Ireland, amounting in numerous cases to actual destitution, that I feel it unnecessary to exhibit any additional proof of the fact. It is enough to state, as the result of my own investigations, that the misery now prevalent among the labouring classes in Ireland appears to be of a nature and intensity calculated to produce great demoralization and danger.

4. I propose to divide the observations which I have to submit to your lordship's consideration, into three parts:—

1. The first will exhibit the general result of my inquiries into the condition of the country, and the habits and feelings of the people; together with such observations as have occurred to me with reference to the introduction of a system of poor laws into Ireland.

11. The second division will have for its object to ascertain whether the workhouse system can be safely established in Ireland, and how far the workhouse may be there relied upon as a test of destitution, and a measure of the relief to be afforded; and also, whether the means of forming unions and creating an efficient machinery for their management exist in Ireland.

111. In the third place, supposing these questions to be answered affirmatively, I shall submit to your lordship in detail what appear to me to be the essential points requiring attention, in framing enactments for establishing a system of poor laws for Ireland.

PART THE FIRST.

5. It will be convenient to consider the two portions comprised in this division of the subject separately, and

1.—In the first place—As to the present condition of the country, and the habits and feelings of the Irish people.

I soon became satisfied that it is only by a personal inspection that the condition of the Irish people can be accurately known. A general, and a tolerably correct, notion of the state of the country may be gained by the examination of reports and evidence; and deductions, pretty accurate in the main, may be drawn therefrom; but to arrive at definite and practical views, a personal inspection of the country is, I think, necessary.

6. The investigations and inquiries in which I have now been engaged have led me to the conviction that the condition of Ireland has, on the whole, during the last thirty years, been progressively improving. It is impossible to pass through the country without being struck with the evidence of increasing wealth which is everywhere apparent, although of course it is more easily traced in towns than in the open country. Great as has been the improvement in England within the same period, that in Ireland, I believe, has been equal. There are towns and districts there, as there are towns and districts in England, in which little if any improvement is visible, or which, owing to peculiar circumstances, may even have retrograded; but the general advance is certain, and the improvement in the condition and increase of the capital of the country are still, I think, steadily progressive.

7. If it be asked how this accords with the apparent increase of misery and destitution among a large portion of the people, the answer I think is obvious. The capital of the country has increased, but the increase of the population has been still greater; and it therefore does not follow that there is an increase of capital or comfort in the possession of each individual, or even of the majority. The reverse is unhappily the fact. Towns exhibiting every sign of increased wealth are encircled by suburbs composed of miserable hovels, sheltering a wretched population of mendicants. In the country, evidence of the extreme subdivision of land everywhere appears, and, as a consequence, the soil, fertile as it naturally is, becomes exhausted by continual cropping; for the cottier tenant, too often reduced to a level little above that of the mendicant, is unable to

provide manure for his land, and has no other mode of restoring its vigour but by subjecting it to a long and profitless fallow.

8. Farmers of 300 acres, or even of 200 or 100, except in the grazing districts, have become almost extinct in Ireland. A variety of circumstances seem to have contributed to bring about this change. In some instances the proprietor has himself subdivided his land into small holdings of 5, 10, or 15 acres, with the view of increasing his rent-roll, or adding to his political influence. In other cases, the land has been let on lease to a single tenant on lives, or for a term of years, or both conjointly, and he has sublet to others, who have again gone on dividing and subletting, until the original proprietor is almost lost sight of, and the original holding is parcelled out among a host of small occupiers.

9. The occupation of a plot of land has now gotten to be considered by a great portion of the Irish people, as conferring almost an interminable right of possession. This seems in some measure to have arisen out of the circumstances in which they have been placed; for there being no legal provision for the destitute, and the sub-division of the land into small holdings having destroyed the regular demand for labour, the only protection against actual want, the only means by which a man could procure food for his family, was by getting and retaining possession of a portion of land: for this he has struggled—for this the peasantry have combined, and burst through all the restraints of law and humanity. So long as this portion of land, so acquired and so retained, was kept together, it was possibly sufficient to supply his family with a tolerable degree of comfort: but after a time he would have sons to provide for, and daughters to portion off; and this must all be effected out of the land, until the holding of 10 or fifteen acres became divided into holdings of two, three or five acres. After a time, too, the same process of subdivision is again resorted to, until the minimum of subsistence is reached; and this is now the only resource of a large portion of the Irish peasantry. Land is to them the great necessary of life. There is no hiring of servants. A man cannot obtain his living as a day-labourer. He must get possession of a plot of land, on which to raise potatoes, or starve. It need scarcely be said that a man will not starve, so long as the means of sustaining life can be obtained by force or fraud; and hence the scenes of violence and bloodshed which have so frequently occurred in Ireland.

10. One of the circumstances that first arrests attention in Ireland, is the almost universal prevalence of mendicancy. It is not perhaps the actual amount of misery existing amongst the mendicant class, great as that may be, which is most to be deprecated; but the falsehood, the trickery, and fraud, which become a part of their profession, and spread by their example. Mendicancy appeals to our sympathies on behalf of vice, as well as wretchedness; and encouragement is too often afforded to the one, by the relief intended to be administered to the other. To assume the semblance of misery, in all its most revolting varieties, is the business of the mendicant. His success depends upon the skill with which he exercises deception. A mass of filth, nakedness, and misery is constantly moving about, entering every house, addressing itself to every eye, and soliciting from every hand: and much of the dirty and indolent habits observable in the cabins, clothing, and general conduct of the peasantry, may probably be traced to this source; and I doubt even if those above the class of labourers altogether escape the taint. Mendicancy and wretchedness have become too common

to be disgraceful. It is not disreputable to beg, or to appear wretchedly clothed, or to be without any of the decencies of life: and the semblance of such misery is not unfrequently assumed for some special object, by individuals not of the mendicant class.

11. Another characteristic of the Irish is their intemperance. Drunkenness appears to be much more common than in England. The use of whiskey and tobacco appears to be excessive, although the evident poverty of the people would seem to forbid such indulgences. The number of spirit-shops in every town and village (for almost every shop in fact sells spirits), and the extreme cheapness of the whiskey afford facilities for drunkenness which seem irresistible. A man may get beastly drunk for 2d; and I understand their potatoe diet renders the Irish people more easily affected by the spirit than others—it may possibly help to increase their love for it. I have been every way assured that the vice of drunkenness is increasing, and that many of the acts of violence and disorder which occur in Ireland are planned in some obscure whiskey shop, and executed under the influence of the poison there imbibed.

12. The Roman Catholic Bishop of Kilkenny has set an admirable example, by putting a stop to drunkenness on Sundays throughout his diocese. It was at first supposed to be impossible to accomplish this, but by steady perseverance he at length succeeded, and is now rewarded by witnessing the improvement of the people in comfort and respectability. The new act, prohibiting drunkenness on penalty of certain fines, seems to be working well in Ireland, and in some degree lessening the evil. The public exhibition of drunkenness is an offence against decency, from which the community is justified in defending itself; and the police are properly active in enforcing the provision of the act.

13. During my progress through the country, it was impossible not to notice the depression of feeling, morally and personally, of the Irish peasantry, and this to an extent which a stranger could not witness without very painful emotions. It shows itself in their mode of living, in their habitations, in their dress, in the dress of their children, and in their general economy and conduct. They seem to feel no pride, no emulation; to be heedless of the present, and reckless of the future. They do not (speaking of the peasantry as a whole) strive to improve their appearance, or add to their comforts. Their cabins still continue slovenly, smoky, filthy, almost without furniture or any article of convenience or decency. On entering a cottage, the women and children are often seen seated on the floor, surrounded by pigs and poultry in the midst of filth—the man lounging at the door, to approach which it is necessary to wade through mud; yet he is too indolent to make a dry approach to his dwelling, although there are materials fit for the purpose close at hand; his wife is too slatternly to sweep the place in which they live, or remove the dirt and offal, however offensive, from the floor. If you point out these circumstances to the peasantry themselves, and endeavour to reason with and show them how easily they might improve their condition and increase their comforts, you are invariably met by excuses as to their poverty. Are a woman, and her children, and her cabin, filthy, whilst a stream of water runs gurgling at the very door?—the answer invariably is, "Sure, how can we help it, we are so poor." With the man it is the same; you find him idly basking in the sun, or seated by the fire, whilst his cabin is surrounded by mud, and scarcely approachable from the accumulation of every kind of filth; and he too will exclaim, "Sure, how can we help it, we are so poor," whilst, at the

very time, he is smoking tobacco, and has probably not denied himself the enjoyment of whiskey.

14. Now poverty is not the cause, or at least not the sole and immediate cause, of this mode of living of the Irish peasantry. If they felt the wish to better their condition, or to appear better, they might do so: but they seem to have no such ambition; and hence the depressed tone of feeling of which I have spoken. This may partly be attributed to the remains of old habits,—for, bad as the circumstances of the peasantry now are, they were yet, I am persuaded, worse 50 or 30 years ago. A part also must be owing to a want of education, and of self-respect; and a part likewise to their poverty; to which cause alone everything that is wrong in Ireland is invariably attributed. Coupled with this assertion of their own poverty, I everywhere found the most exaggerated notions of English wealth, and a vague belief of certain great things that are by-and-bye to be done by the influx of Englishmen and English capital. This, perhaps, is in some respects fortunate, for although it may in a certain degree indispose the Irish themselves to present exertion, it will yet induce them to hail with favour whatever efforts may be made for bettering their condition, and developing the resources of the country.

15. The desultory and idle habits of the Irish peasantry, are very remarkable. However urgent the demands upon them for exertion,—if, as in the present season, their crops are rotting in the fields from excessive wet, and every moment of sunshine should be taken eager advantage of,—still, if there be a market to attend, a fair, or a funeral, a horse-race, a fight, or a wedding, all else is neglected or forgotten: they hurry off in search of the excitements and the whiskey which abound on such occasions, and with a recklessness hardly to be credited, at the moment that they are complaining most loudly of distress they take the most certain steps for increasing it. The fondness for ardent spirits is, I believe, one cause of this; another, and probably the principal cause, will be found in their general position as part occupiers and part labourers. The work required upon their small holdings is easily performed, and may, as they say, “be done any day.” Their work for wages is uncertain; hence arises a total disregard of the value of time, a desultory and sauntering habit, without industry or steadiness of purpose. Under these circumstances, it will not be matter of surprise that the heaviest share of the work falls upon the females, who appear to do all the drudgery, and are commonly seen without shoes or stockings, whilst the men are in general supplied with both.

16. Such is too generally the character, and such the habits, of the Irish peasantry at the present day; and it may not be uninteresting to mark the close resemblance which these bear to the character and habits of the English peasantry in the pauperized districts, under the abuses of the old poor law. Mendicancy and indiscriminate alms-giving seem to have produced the same results in Ireland that indiscriminate relief produced in England; the same reckless disregard of the future—the same idle and disorderly conduct—the same proneness to outrage, and resistance to lawful authority, having then characterized the English pauper labourer, which are now too generally the characteristics of the Irish peasant. An abuse of a good law caused the evil in the one case, and a removal of that abuse is now rapidly effecting a remedy. In the other case, the evil appears to have arisen rather from the want than the abuse of a law; but the corrective for both will, I believe, be found to be essentially the same.

II. Secondly.—As to the introduction of asy-tem of Poor Laws into Ireland.

17. The objections usually urged against an Irish Poor Law, may be divided into two heads—first, those founded on an anticipated demoralization of the Irish peasantry; and, secondly, those founded on the probable amount of the charge.

18. The first objection derives its force from the example of England under the old law; but the weight of this objection is destroyed by the improved administration under the new law, which is rapidly eradicating the effects of previous abuse; and which will, there is good reason for believing, effectually prevent their recurrence. This belief is founded on the experience of the effects of the new system, in every instance in which it has been brought fairly into operation; and particularly in two important parishes in Nottinghamshire, where the workhouse principle was first established in its simplicity and efficiency, 15 or 16 years ago, and where it has continued to be equally effective up to the present time. Similar results have invariably attended its application in the new unions formed under the Poor Law Amendment Act, which are conducted essentially upon the same principle, but with a superior combination of machinery and administrative arrangement.

19. With respect to the second objection, founded on the probable amount of expenditure, it may be remarked, that the Irish population, like every other, must be supported in some way out of the resources of the country; and it does not follow, therefore, that the establishment of such a system of relief will greatly increase the charge upon the community, if it increase the charge at all. During the progress of my inquiries I was often told that the recognition of any legal claim for relief would lead to universal pauperism, and would amount to a total confiscation of property. Many Irish landowners appeared to participate in this apprehension, under the influence of which it seems to have been overlooked, that the only legal claim for relief in England is founded on the actual destitution of the claimant; and that as the existence of destitution is the ground of the claim, so is its removal the measure of the relief to be afforded. This circumstance alone, if the destitution be rightly tested, will afford sufficient, and perhaps the best protection to property. At present there is no test of destitution in Ireland; mendicancy is only the outward sign of it. The mendicant, whether his distress be real or fictitious, claims and receives his share of the produce of the soil in the shape of charity, before the landlord can receive his portion in the shape of rent, and before the tenant has ascertained whether he is a gainer or a loser by his labours and his risks. The mendicant's claim has now precedence of every other. If the whole property of Ireland was rated to the relief of the poor, it would be no more; but in this case the charge would be fairly and equally borne; whereas at present it is partial and unequal in the collection, and has, moreover, a direct tendency to evil in its application.

20. The voluntary contributions of Scotland have been strongly recommended as an example, rather than the compulsory assessments of England, and the Dublin Mendicity Association, supported on the former principle, has been referred to, and its working described as at once effective for the suppression of mendicancy, and the relief of the indigent within the sphere of its operations, without in any way lessening the sensibilities of individual benevolence. It appears to me, however, that the feelings of charity and gratitude, which it is delightful to con-

template as the motive and the fruit of benevolent actions, can only exist between individuals, and are incompatible with the operations of such associations. It matters not whether the fund to be distributed has been raised by voluntary contribution or by legal assessment, or whether it has been devised for purposes of general charity; the application of the fund becomes, in each case, a trust; it is distributed as a trust, and it is received as a right not as a gift. Each applicant considers that he has a claim upon the fund, and regards every refusal as an individual injustice.

21. As regards the mode of providing relief for the destitute which prevails in Scotland,—interwoven as it is with the habits and religious feelings of the people, and made up of partly voluntary, partly compulsory, contributions, (for a contribution may be rendered almost as compulsory by custom as if imposed by legislative enactment,) it seems only necessary to remark, that its existence in Scotland does not prove that it is applicable to a country so essentially different in all respects as Ireland, where no modification of voluntary contributions can be relied upon for rendering relief, from that source, permanent or effectual. Of this I was satisfied after a careful examination of the Dublin Mendicity Association, which has with difficulty been kept in existence by the great exertions of the gentlemen constituting the committee, and by the threat of parading the mendicants through the streets. If so much difficulty is found in supporting such an institution in Dublin, how impracticable must it be to provide permanent support for similar institutions in other parts of the country? And if the relief professed to be afforded on certain conditions is not steadily supplied, what mischief and misery may not ensue?

22. The practice of the Dublin Mendicity Association is, to receive all applicants, to supply them with sufficient food during the day, and, on dismissing them at night, to give each individual a penny to procure a lodging. Of the 2,047 persons who were inmates when I visited the establishment, the far larger portion were seated in idleness. Some of the women and girls were occupied in spinning and knitting, and some in stonebreaking: this last seemed a favourite occupation, and the women could easily earn 1s. 8d. each per week at it, but they were not permitted to earn more. The men who were able and willing to work were occupied in grinding horse corn, and in breaking limestone into gravel, and were not permitted to earn more than 2s. 6d. per week; but none were compelled to work, and the men, as well as the women, earning as above, were provided with subsistence, for which they were charged 1d. per day by the Association. The Dublin Mendicity Association has certainly done great good, and it must be admitted that the sudden closing of its doors would be productive of much suffering. It is however, I think, evident, that its tendency must be to hold out an encouragement to vagrancy, by ensuring a certain amount of support on which the vagrant can fall back under favourable circumstances, or a "run of ill luck," as it would probably be called, thus operating, in fact, with respect to vagrancy, as a kind of voluntary labour-rate. The Dublin Mendicity Association, therefore, affords no precedent for general adoption as a medium of relief in Ireland; and the chief reasons in favour of such an institution seem to be the absence of any general system of relief for the destitute, and the amount of suffering which would attend its sudden dissolution.

23. Some persons have contended, that relief for the indigent classes in Ireland ought to be provided

in "Houses of Industry," similar to those now existing in Dublin, Clonmell, Cork, Limerick, &c., to be established and maintained by Government. These institutions are in general tolerably well managed in the large towns. Some degree of classification of the inmates is enforced, and the sexes are invariably separated. In this respect they are decidedly superior to the old Gilbert's Incorporation Houses in England, although in most other respects they are nearly on a par with them. But they are certainly not entitled to the designation of "houses of industry;" there being little work done in any of them, and in some none at all. They are, in fact, places for the reception and maintenance of a certain number of poor persons, generally aged or infirm, and idiots and lunatics. In some instances vagrants are committed to these "houses of industry" for one day or more; but as a means of supplying needful relief to the destitute, and of testing that destitution, so as to detect and repel wilful idleness, and thereby afford a new stimulant to exertion, they are, I think, totally inefficient.

24. Notwithstanding these objections, I found everywhere throughout my progress, after quitting Dublin, a strong feeling in favour of a general assessment upon property, for the relief of the indigent. At present, the burden of such relief, falls almost exclusively upon what may be called the lower classes, whilst the higher classes generally, and the absentee proprietors entirely, escape from any immediate participation in it. A system of poor laws, similar in principle to the English system, would go far to remedy this inequality; the people are aware of this, and, as the general result of my inquiries, I have been led to the conclusion that poor laws may be now established in Ireland, guarded by the correctives derived from experience in England, with safety and efficiency. I think also, that such a measure would at the same time serve to connect the interest of landlords and tenants, and so become a means of benefiting both, and promoting the general peace and prosperity of the country.

25. The desire now so generally expressed for a full participation in English laws and English institutions, will dispose the Irish people to receive with alacrity any measure having a tendency to put them upon the same footing as their fellow-subjects of England. This is a circumstance particularly favourable to the establishment of a safe and efficient system of poor-laws of Ireland at this moment. At another season, or under other circumstances, it might be difficult to surround a legal provision of relief for the Irish poor, with such checks and counterpoises as to guard it effectually against abuse; and to prevent that which was intended for the relief of the un-avoidably indigent from being perverted to the support of indolence, or to the encouragement of vice and improvidence. At present, I think little, comparatively of such difficulty exists; and the Legislature may now venture to entertain the subject, having the experience of England before them, with a reasonable confidence of being able so to deal with it, as to guard against abuse, and to bring the measure to a successful issue. All circumstances appear to be now favourable for the introduction of poor laws into Ireland; and if the landed proprietors and gentry will there perform the same part which the proprietors and gentry of England are so zealously and beneficially performing in the administration of the new law, the result will be neither distant nor doubtful. That the landlords of Ireland will do this, it seems unreasonable to doubt, every motive of public duty and private interest impelling them to it; and it is, I think, impossible to over-estimate the

importance, morally and socially, of their thus taking their full share of the labour, as well as the charge, of local administration, and identifying themselves with the other classes of the community.

26. A system of poor laws, however, if established in Ireland, must not be expected to work miracles. It would not immediately give employment or capital; but it would, I think, serve to help the country through what may be called its transition period; and in time, and with the aid of other circumstances, would effect a material improvement in the condition of the Irish people. The English poor laws, in their earlier operation, contributed to the accomplishment of this object in England; and there seems nothing to prevent similar results in Ireland. Facilities now exist in Ireland for helping forward the change, and for shortening its duration as well as securing its benefits, which England did not possess in the time of Elizabeth, or for a century and a half afterwards. By the term "transition period," which I have used above, I mean to indicate that season of change from the system of small holdings, allotments, and subdivisions of land, which now prevails in Ireland, to the better practice of day labour for wages, and to that dependence on daily labour for support which is the present condition of the English peasantry. This transition period is, I believe, generally beset with difficulty and suffering. It was so in England; it is, and for a time will probably continue to be so, in Ireland; and every aid should be afforded to shorten its duration, and lessen its pressure.

27. It has been considered that the existence of the con-acre system in Ireland is favourable to such a transition. I am disposed to concur in this view; and think that the frequent change, and annual hiring of the con-acre, will help to wean the Irish peasantry from their now eager desire for becoming occupiers of land, and will thus lead them to become free labourers for wages. This eager clinging to land, and its subdivision into small holdings is, I think, at once, a cause and a consequence of the rapid increase of the Irish people, and of the extreme poverty and want which prevail among them. It is not because the potatoe alone constitutes their food that a kind of famine, more or less intense, occurs annually in Ireland, between the going out of the old, and of the coming in of the new crops; but it is because the peasantry are the sole providers for their own necessities, each out of his own small holding, and being all alike hard pressed by poverty, and prone, therefore, to endeavour "to pull through," as they call it, with the smallest amount of means, they are very apt to under-calculate the extent of their wants, and often squander: their store so early, as to be left without food before the new crop is ripe. In this emergency, there is no stock provided to which they can have recourse, even if they had the means of purchasing; and misery and disease are the consequences. All the evidence bears out this view of the subject, and it is confirmed by my own inquiries. A poor law, if established, would lighten the pressure under such a visitation, by providing for the relief of the aged and infirm, the widow and the orphan, who now depend entirely upon the labouring classes for subsistence. The poor law machinery, too, would probably afford the best organization for obtaining present relief for the able-bodied, in their extreme need, as well as for preventing the occurrence of such a calamity in future.

28. It is impossible to mix with the Irish people, and not become sensible of the influence which the clergy exercise over their flocks. It seemed important, therefore, to ascertain the views of the clergy, and I discussed the subject with many of them, as

well Catholic as Protestant, in all parts of the country, and took all opportunities of obtaining a knowledge of their views and opinions; and I found them, with few exceptions, decidedly favourable to a poor law. In the case where they were not so, the adverse opinion appeared to be founded on some vague notion, that their immediate influence might be lessened by taking from them the distribution of some of that relief which now passes through their hands; but this narrow feeling was of such rare occurrence, that I feel warranted in saying, that the clergy of every denomination are almost unanimously in favour of a system of poor laws for Ireland. This was, perhaps, to be expected; for the duties of the clergy lead them to mix more with the people, and to see more of the actual misery than any other class of persons in Ireland. The shopkeepers too, and manufacturers and dealers generally, I invariably found favourable to poor laws. They for the most part declared that, independently of other and higher considerations, they should be gainers at the end of the year, whatever might be the amount legally assessed upon them; for that they could neither close their doors, nor turn their backs upon the wretched objects who were constantly applying to them for aid; whilst the landed proprietors, if resident, were in a great measure protected from such applications, and the non-resident proprietors were, of course, altogether beyond their reach.

29. A legal provision for the destitute is, moreover, I think, an indispensable preliminary to the suppression of mendicancy. If the state offers an alternative, it may prohibit begging: it would be in vain to do so otherwise, for the law would be opposed to our natural sympathies, and would remain inoperative. This was the course adopted in England, where it was long endeavoured to repress vagrancy by direct enactments, but apparently with little advantage. At last the offer of relief was coupled with the prohibition of mendicancy; and, until our poor law administration had become corrupt, with perfect success. To establish a poor law, then, is, I believe, a necessary preliminary to the suppression of mendicancy. That it will be, on the whole, economical to do this in Ireland, it is, I think, scarcely possible to doubt; but the moral effect of removing such a pestilent plague-spot from society is, beyond calculation, important.

30. It is, I think, a circumstance favourable to the establishment of poor laws, that there is so much land lying waste and uncultivated in Ireland. A large portion of this land appears to be susceptible of profitable cultivation; and the order and security which the introduction of poor laws would tend to establish, would encourage the application of capital to such objects. If capital were to be so applied, considerable tracts would be brought under culture, and thus afford immediate occupation to the now unemployed labourers. I have no experience in the reclamation of bog land, but the finest crops which I saw in Ireland were on land of this description; and this often very imperfectly drained. Most of the recently reclaimed bog which I saw in the western counties, was reclaimed by the small occupiers, who partially drained and enclosed an acre or two at a time; but such operations were without system or combination, and for the most part indifferently performed. In this way, however, the reclamation of these wastes will of necessity proceed,—constantly adding to the number of small cottier tenants, and consequently swelling the amount of poverty and wretchedness in the country—unless proprietors and capitalists shall be induced to take the matter in hand, and, by enclosing and effectually draining whole tracts,

secure the means of applying improved and economical management on a large scale.—It appeared from what I saw, and from all that I could learn by careful inquiry, that wherever sea-sand, or sea-weed or lime is to be obtained, bog-land may be cultivated to advantage—presuming always that it is first effectually drained. Now, Ireland abounds in limestone beyond any country that I have ever seen, and along the western coast sand and sea-weed are plentiful. The elements of fertility, therefore are at hand—all that is wanted is capital and enterprise to call them into action. The enclosing and draining, and the whole process of reclamation, would afford employment to a large number of labourers, who are now for a great portion of the year, idling about without occupation; and when the land so reclaimed becomes subjected to a regular process of cultivation, it will continue to afford them regular employment at daily wages, instead of the often miserably insufficient produce of their own small holdings, to which they now are compelled to cling as their sole means of support.

31. With reference to the establishment of a poor law, then, and to the passage of the labouring portion of the community through what I have called the "transition period," the reclamation of the bog and waste lands in Ireland is as most important matter of consideration. Such reclamation, too, will be perhaps equally important, as affording almost the only unoccupied land on which farms, of sufficient extent for securing the advantages of improved cultivation and economical management, can now be established. In farms of small extent, there is not room for the division of labour, alternation of crops, and scientific and economical management, which are necessary for the profitable employment of capital in agriculture; and hence the striking fact stated in the report of the Irish Poor Inquiry Commissioners, that the average produce of the soil in Ireland is not much above one-half the average produce in England, whilst the number of labourers employed in agriculture is, in proportion to the quantity of land under cultivation, more than double, namely, as five to two: thus ten labourers in Ireland raise only the same quantity of produce that two labourers raise in England; and this produce too, is generally of an inferior quality. If the social and agricultural system of the two countries be assimilated, the produce of Ireland will be augmented, and the cost of production lessened. Hands and capital and enterprise will then be found for carrying on the fisheries, for which the coasts of Ireland are so favourable, but which have hitherto been almost or altogether neglected. Planting, likewise, will then be attended to by the landed proprietors of Ireland, as it has been done by those of Scotland and England, and they will no longer allow extensive tracts of hilly and broken country, all capable of carrying timber, to remain without a tree. Ireland was evidently at one time a thickly wooded country,—at present it is almost entirely stripped of wood, and every sapling is purloined by the people; but let planting become general, and such purloining will cease. It is the scarcity of wood which now leads to the petty plundering, so destructive to young plantations.

32. In here speaking of the reclamation of waste land, as an important auxiliary to the establishment of poor laws, I have presumed that the land is first effectually drained, this being an indispensable preliminary. An efficient system of drainage, would also go far to correct the excessive humidity of the climate in Ireland. As drainage is now conducted the water is not carried off the surface,—it is merely collected into pools and morasses, thence to be absorbed by evaporation, or else to stagnate and soak

through the soil. But if, instead of this, the water was carried by effectual drainage into the great watercourses and rivers communicating with the sea, and the soil laid dry and warm, the climate would also become drier, and warmer. There can be no doubt, I think, that the climate of Ireland, and particularly that of the western parts, was at one time less cold and humid than it is now; and that the growth of the bogs, by first retaining the rain as it fell, and then giving it back to the atmosphere by evaporation, instead of its being carried to the sea by the usual channels has tended to make the climate and the soil more cold and wet. The size and character of the timber everywhere found at the bottom of the bogs, and over which they have grown in the course of years, proves this. Trees will not now grow where these have grown; and the deteriorating process appears to be still in operation. If the wet and bog lands of Ireland were effectually drained, and properly cultivated, and the general drainage of the country duly attended to, I am persuaded that the climate would be improved, as well as the produce of the soil. Such drainage, however, will generally require the co-operation of all the landowners of a district, to facilitate which the two bills introduced in the last session by Mr. Lynch, if passed into law, would, I think, be highly useful. In addition to these measures, however, it would probably be found necessary to give large powers for the purpose of enforcing drainage, and charging the adjoining property with a fair portion of the expense in certain cases; and also to appoint commissioners of sewers or drainage, as in England, to superintend the drains and watercourses, and to compel the occupiers of adjoining lands to keep them clear, with power to fine for any neglect of this very important duty.

33. It appears, then, I think, that a system of poor laws is necessary for relieving the destitution to which a large portion of the population in Ireland is now exposed. It appears, too, that circumstances are at present peculiarly favourable for the introduction of such a measure into Ireland. Poor laws seem also to be necessary, as a first step, towards effecting an improvement in the character, habits, and social condition of the people. Without such improvement, peace, good order, and security cannot exist in Ireland; and without these, it is in vain to look for that accumulation of wealth, and influx of capital, which are necessary for developing its resources, agricultural and commercial, and for providing profitable employment for the population. Ireland is now suffering under a circle of evils, producing and reproducing one another. Want of capital produces want of employment—want of employment, turbulence and misery—turbulence and misery, insecurity—insecurity prevents the introduction or accumulation of capital—and so on. Until this circle is broken, the evils must continue, and probably augment. The first thing to be done is to give security—that will produce or invite capital—and capital will give employment. But security of person and property cannot co-exist with general destitution. So that, in truth the drainage, reclamation, and profitable cultivation of bogs and wastes, the establishment of fisheries and manufactures, improvements in agriculture, and in the general condition of the country, and lastly, the elevation of the great mass of the Irish people in the social scale, appear to be all more or less contingent upon establishing a law providing for the relief of the destitute. How such a law may be best formed, so as to secure the largest amount of good with the least risk of evil, I proceed now to consider.

(To be continued.)

THE TWO HARES.

Two hares which often met to feed,
 And frisk and gambol in a mead,
 Where Deva in her moodiest motion,
 Rolls down her tribute to the ocean ;
 Whilst vetch and clover ruminating,
 Began, as hist'ry tells, a prating.
 " A sorry life it is we've led
 (The elder to the younger said) ;
 Four long long years have well nigh gone
 Over my head, and all save one
 O'er yours (and that will soon have run) ; }
 Still we no other lands have seen
 Save this one spot, which though so green
 And tasty too, I must confess,
 Will lose ere long its tastiness,
 Unless we've some variety,
 To hinder that satiety
 Which e'en the richest grass produces,
 Without some counteracting juices ;
 Wilt thou with me to-morrow go
 Where lucern and the fescues grow ;
 Seek warmer soils and prettier places,
 An (*entre nous*) see prettier faces ;
 If so, to-morrow's earliest dawn
 Shall find me at the Trysting Thorn."
 " Most happily ; and proud am I
 To travel with such good company :
 Most happily ;" scream'd with delight
 The younger, at such prospects bright,
 And so they parted for the night. }

To slumber now the young hare tries
 In vain ; he cannot close his eyes ;
 Though not as yet the Autumn's fall
 Did his poor frighted breast appal,
 Nor had as yet its sleety storm
 Drenched him in his muddy form ;
 But other forms and visions bright
 Kept him sleepless all the night.
 At length arriv'd the laggard morn,
 And puss bethought him of the Thorn ;
 Jump'd quickly up, stretch'd wide his jaws,
 Brush'd both his whiskers with his paws ;
 And scarce had seconds sixty gone
 Ere he had join'd his "*compagnon*."
 Their words at meeting were but few—
 " Good morrow," this, that, " How d'y'e do ?"
 Vow'd they never did remember
 Such charming weather in September ;
 And then without much more ado,
 Set out their journey to pursue.
 As trippingly along they pass,
 Brushing the dew-drops off the grass ;
 Through several fields they center on
 In a state of mental abstraction ;
 Entering but little in conversation,
 Their thoughts affording occupation.
 At length the younger one suggests
 That it was time to break their fasts ;
 And this strong reason adds, moreover,
 That they were in a field of clover.
 No sooner said than 'twas agreed,
 And quick they sat to work and feed :
 One prais'd the cow-grass and the Dutch,
 The other liked the trefoil much.
 But oh ! how great was their surprise,
 When two feet high before their eyes, }
 They saw the scarlett trefoil rise :
 Electrified by admiration,
 They lost all power of exclamation ;
 So reared themselves upon their haunches,
 And smiling snuffed at the branches.
 When lo ! how alter'd were their feelings,
 How hard, how cruel are Fate's dealings !

Two greyhounds with their armed master
 Appear'd before them in the pasture !
 Down droop'd their ears, their bodies cower'd
 Involuntarily, overpower'd !
 Loos'd were their jaws, and their starting eyes
 Mutually sought his friend's advice,
 But sought in vain ; their bosom's flutter
 Forbad their timid lips to utter.
 Near and nearer came the sound,
 Close and closer they press'd the ground ; }
 The young hare at the old hare frown'd, }
 But couldn't, if she dared to, chide,
 For at that moment they were spied.
 " To ho ! To ho !" exclaimed the man,
 Up jump'd the elder puss, and ran ;
 Bang, bang, the shots flew past his head,
 One his left ear entered ;
 But stopt he not to assuage the pain
 Till he had reach'd his home again.
 (Oh, home, dear home, how fresh a flame
 Lies hid within that little name,
 To cheer a heart and warm a breast,
 Which fears and dangers have oppressed.)
 Not so his friend, his luckless fate
 Had sealed him breathless to his seat,
 Until the bounds at one fell bound
 Laid him a *corse*d here, on the ground.

MORAL.

Ye who are bent upon your travels,
 Will learn the truth my tale unravels.
 When ye in distant lands may roam,
 You'll find the sweetest spot is " Home."

J. M.

TURNPIKE TRUSTS AND TOLLS.

[Evidence of the Duke of Richmond before the select Committee of the House of Commons, June 30th, 1826.]

Suppose that the tolls in the county of Sussex were entirely done away with, and that there was some other means of raising the revenue of 42,700*l*. Let us assume that you require in Sussex 42,000*l* a-year ; that some means are devised of raising this revenue either by tax on horses and carriages kept for pleasure, or some other means, as by a rate on houses ; that this 42,000*l* a-year is raised by the county, and all the tolls are done away ; that the consolidation of the trusts take place, and that in proportion as their income now is, in the several trusts, in that proportion should this 42,000*l* a-year be divided among them ; that the management of the roads, the superintendance, the alteration and the improvements should be placed entirely in the hands of those gentlemen who would have it, if a consolidation were brought into operation ; that the board of control in London should be established to superintend the financial department to see that these particular trusts which were consolidated should not be allowed to go beyond the means given them, and also that they were not allowed to undertake or expend money in an improper manner ; would not your objection to country gentlemen be obviated, and would there not be much less inconvenience, and all the annoyance of the tolls taken away, and the landed and all interests be benefited ?—I think that great and expensive improvements ought not to be paid by the occupiers alone ; a portion of the expense ought to be paid by the owners. It is quite just to keep the road in repair, which is of great benefit to the occupiers, at their charge ; but extensive improvements, which are a permanent benefit to the owners' estates, ought at least to be paid for to a certain extent by a rate on the owners.

Colonel Rushbrooke.—You will put the whole charge of the roads on the landed interest ?—I do not recom-

mend the plan, but if you can get rid of the debt, the counties can, I think, keep their roads in repair; I agree with the Report of the Committee of the House of Lords, that the trusts should be consolidated, and that efficient means should be taken to secure economy and to prevent the increase of the debt; I do not recommend the plan of abolishing tolls, but I am of opinion that if it is practicable, that it would be desirable.

Supposing it to be as you state, if the tolls were done away with, the landlords would be the parties to keep these roads in repair?—I think the owners ought to pay a portion for the improvements, and the occupiers for the repairs.

Chairman.—In the Report made from the Lords' Committee, it states something like a recommendation of the milemen being turned into a public force; and I think you stated, in the evidence given now, such a measure would perhaps be desirable; has your Grace turned your attention to the probability of the difference of expense that would occur, were such a police force established?—No, I have not; there are but few milemen employed at present; the expense would not be greater, for you would only pay them as you now pay special constables when they are employed, but you would have men of good character at hand, on whom you could depend.

Mr. Long.—With regard to the farmers, they pay the most; where a person who keeps a horse pays only a few halfpence, the farmer pays 4s 6d for a waggon of four horses; would it not be a very great advantage to the agricultural interest to get rid of tolls altogether?—I think it would.

Your Grace has never made any calculation as to what a farmer may pay in the course of a year for tolls?—No, I have not; but I know they are anxious to evade turnpike-gates, and frequently go a great distance round; they dislike in my neighbourhood the turnpike roads, and I believe that nothing would be more unpopular with the farmers than to propose to make the road turnpike between Chichester and Arundel, which is now a highway, and repaired by the several parishes.

DEVIZES WOOL MARKET ORDINARY.

After the wool market on Thursday se'nnight, about 160 of substantial and respectable farmers, and others, partook of a most excellent dinner, provided by Mr. John Neate, with his usual skill and comfort, in the Assembly-room; Walter Long, Esq., in the chair, supported by Capt. Dundas, Mr. Phipps, Mr. Salmon, Mr. Sloper, Lieut. Hill, &c. &c.—Mr. W. Brown (who officiated for Capt. Budd, Mr. W. Ferris, Mr. Jonathan Grant, and Mr. T. Lavington, very efficiently discharged the duties of Vice-Presidents. On the removal of the cloth, the chairman proposed, "The King;" "The Queen;" "The Princess Victoria;" and the rest of the Royal Family "The Army and Navy;" "The Lord Lieutenant of the County;" "Prosperity to the Devizes Wool Market; (*cheers*)" and a variety of other toasts; the chairman having left,

Mr. SALMON, at the earnest request of several friends, succeeded Mr. Long in the chair, and a great part of the company continued for some time longer. In proposing as a toast, "The members of the Northern Division of the County," Mr. Salmon said, although there was no express rule prohibiting politics, yet there appeared to be a tacit agreement to that effect; and he would endeavour not to violate that agreement—at all events, he would do nothing offensively. Thus much, however, he might say of Mr. Long, and he thought the company would agree with him—that as a member of parliament, in all public matters, he exercised his judgment fearlessly

and honestly—that he paid the most assiduous attention to the local interests of the county—that during the recess he resided on his estate, diffusing his wealth, for the benefit of those around him; that, being a practical agriculturist himself, and knowing well the disadvantages under which the farmers laboured, he was a sincere friend to the farmers; and that he was, as had been before stated, a considerate and liberal landlord. Mr. Salmon also passed some compliments on Mr. Methuen, the other member for the division (the terms of which we could not catch,) and the toast was drank with cheers.

Mr. T. LAVINGTON said, that he was a tenant of Mr. Long's, and the tenant that was ashamed to acknowledge he had a liberal landlord, when that was the fact, was undeserving of a liberal landlord. Mr. Long, then, was in every sense of the word, a good landlord; and he believed he had a grateful and a good tenantry. He was not one of those fashionable advertising landlords, who shewed their casual benevolence by returning 10 or 20 per cent. according to the exigencies of the times, and then letting all the world know it, by publishing it in the papers. No! He required no such means to rectify the balance. "Live and let live" was his motto; and he took care in the first place to let his farms at a fair and moderate rent, so that the farmer one year with another might reap a remuneration for his capital and skill: and to this (as Mr. Long himself had that day observed) the farmer was undeniably entitled.—Mr. Lavington said, he could not help admiring the manliness and generosity with which Mr. Salmon had spoken of the Northern members. It was but too common, now a day, when most men thought they were capable of governing the nation, to attribute every bad feeling to those who were politically opposed to them; and few people had the candour to say a word in favour of a public man, if there was the slightest shade of difference in their politics. On behalf of Mr. Long, then, he sincerely thanked Mr. Salmon for the very handsome manner in which he had proposed the toast: and before he concluded, he would say one word with regard to the funds of the society.—He believed that Mr. Long was too well known for any one to suppose, that what he had said on this subject, was an unmeaning compliment. He (Mr. Lavington) assured the company, that when he called upon Mr. Long to solicit a subscription, (Mr. Long having previously ascertained that it was the desire of a large portion of the farmers of the county to establish a wool and cattle market at Devizes,) he would readily have contributed 50*l.*; and that he (Mr. Lavington) was the means of restricting him to a subscription of 10*l.*—submitting to him that that was as much as would be required. This, the company would concede to him, was a pretty strong proof, that from the first Mr. Long was ready to uphold the funds of the society. Mr. Lavington made a few more observations, and then sat down, cheered by the whole company.

A NEW OLEAGINOUS PLANT.—The celebrated botanist *Candolla* has called the attention of European agriculturists to a plant cultivated in Abyssinia and India, from the seeds of which an oil is extracted, which is used not only in the preparation of food, but various other necessary and domestic purposes. It is an annual herb, named *Mam-tilla* in Bengal; and, as all the plants of that tribe readily habituate themselves to our climate, it is capable of being made a valuable addition to our oleaginous seeds.

TIMBER DUTIES.

With the exception of food, there is no article consumed in this country of greater importance than timber. It is used in the formation and creation of almost every thing necessary to mankind. In the implements of agriculture, in the machinery of manufactures, in house-building, and ship-building, the consumption of this article is extensive beyond all calculation. To obtain an article of such general utility at the cheapest rates, therefore, common feeling would say, is one of the first objects of a well-regulated system of society; and yet the British government have imposed on its importation into this country from foreign nations most oppressive duties, and still more oppressive preferences. The present extraordinary system was one of the wise acts of that most extraordinary minister of finance, Mr. Vansittart.

Previous to 1809, the duty on timber imported from Prussia, Russia, Norway, Sweden, and all foreign nations, was 16s, and in the port of Memel alone upwards of 1,000 cargoes were annually shipped to this country at this moderate duty. In that year, however, and 1810, political events occurred in the North of Europe which created some anxiety respecting the future supply of timber from abroad being equal to the usual consumption. Mr. Vansittart, therefore, by one of those acts, in those days no doubt, of true wisdom, but which is now unintelligible, adopted a novel plan for the remedy of an anticipated evil. He resolved (to render the supply of timber here certain) to advance the duty on it from all foreign countries to 31 5s instead of 16s; and the first and present consequence is that the supply of timber has been reduced by three quarters of its previous amount. To obtain, however, this great deficiency, he applied his fertile imagination to the Canadas, and to our other colonies producing timber, and imposed a duty of 10s only on colonial timber.

The effects of this alteration in the timber trade have been most injurious, and have not conferred one solitary benefit on any interest in this country. To our manufacturers it has done much injury, for, with the decrease of the timber trade has decreased, in a still greater degree, our export trade to those northern nations, with whom we had previously exchanged many articles of home manufacture and of home production for their timber. The quantity and value of our exports now to Memel, for instance, is not one-fifth of what they were in 1809, and previous to that date; in fact, at that and many other places, the only payment the inhabitants can make us in timber, and by the quantity we take of this article must be regulated the amount of our exports to them. To the inhabitants of our American possessions the encouragement given them in the timber trade has likewise been in every way disadvantageous. It has increased the number of lumberers, who are the pest of society in every young state; and by so doing it has introduced, particularly in the Canadas, a disinclination to tillage, and to every description of agricultural pursuits. It debases their minds, and generally leads to a state of idleness and crime. So far from the real wealth of the Canadas being improved by the preference given them by our timber duties, the fact is positively the reverse; and to remove that preference now given them in the supply of the United Kingdom, would confer on these colonies themselves almost as great a favour as an open trade would confer on his Majesty's subjects at home, whose interests are most powerfully affected by these almost insane acts of legislation.

These laws likewise encourage a considerable degree of fraud in the evasion of the foreign duties. It is notorious, for instance, that foreign mahogany is frequently first imported into one of our colonies, and afterwards imported into this country on payment of the colonial duties.

Some few years ago a government contract for Baltic timber was supplied by the contractor on the payment of the colonial duty. He shipped his timber in the Baltic for a port in Nova Scotia, from whence he imported it to Portsmouth, and landed it in his Majesty's dock-yard there as foreign timber, paying only the colonial duty. This, however, we believe, cannot again occur, the law having been lately amended. These long voyages undoubtedly procured for ship-owners better freights, but this improvement was obtained at the expense of the revenue, and it is as just to insist on all timber intended for use being first sent to Australia for the benefit of the shipping interest, as it is to afford this most unwise preference in duties to the colonies. One of the arguments now used against any alteration in the present system is the great injury the change would inflict on shipping.

Now, nothing can be clearer than that the public should not be charged immoderately for the benefit of any particular interest whatever, and therefore this defence of a bad system is perfectly groundless; but we deny that the shipping interest could eventually receive any damage by the proper arrangement of these duties, for by the reduced value of timber, which an equalization of the foreign and colonial would create, ships would be much cheaper constructed, and what would be lost to them in the long voyages, would be fully restored to them in the frequency of short ones. The increased quantity of timber which low duties would cause to be consumed, and the reduced price of ship-building, would do far more than remunerate the present trade for anything which it could suffer by an alteration in the existing system.

There is, however, another interest in this country, far more important than those of colonies and ships, which ought to be consulted. We allude to that of the great body of timber consumers in these kingdoms. Colonial timber, it is notorious, has none of the good qualities to be found in foreign timber: it is much softer, less durable, and is very generally subject to the dry rot. The British ministers are so much impressed with this truth, that the use of colonial timber is not permitted in his Majesty's dock yards; and it is certainly the more extraordinary on this account that private individuals should be encouraged by legislative enactments to consume a description of timber which is not considered fit for building his Majesty's ships. To throw out inducements to the people to deal in commodities of which the quality is known to be inferior, in preference to the same commodities of superior qualities, is an act which could only originate in minds so very capacious as those were, who, in 1809, were the ministers of this country. The effects are already visible in the state of the ships built with colonial timber, and we strongly suspect that many of the towns and houses which have been raised during the period we now mention will be found very deficient from similar causes. It is to be hoped, however, that this important subject will soon receive that attention from the legislature which it demands. About twelve years ago the duty on foreign timber was reduced to 21 15s, but still it is far too high for the public interest, and for the revenue. Gradually to raise the duty on colonial timber, and in an equal ratio to reduce that on foreign timber un-

til it became the same, will soon double the amount of duty on timber now paid into the Treasury, will increase the number and quality of ships employed in the timber trade, will be of high advantage to the agricultural prosperity of our American colonies, and will only be doing justice to the overburdened people of the United Kingdom. An increase of two millions sterling on timber duties would enable the Chancellor of the Exchequer to reduce several very oppressive taxes, and this he may obtain within two or three years hence by equalizing the present duty on foreign and colonial timber imported into this country.—*The Globe*.

HOLBORN UNION.

Much has been said, and with great truth, with respect to the savings under the management of the guardians of different unions formed by the poor law commissioners.

The much abused guardians of the Holborn Union, notwithstanding all the difficulties thrown in their way by those inclined to support the former iniquitous mode of relieving the poor, may safely challenge the most rigid inquiry whether their measures have operated with injustice or unmerited severity towards the poor of the union under their control; the result must be, that so far from that being the case, the really deserving poor have been *more considered, better fed, better clothed, and better lodged* since the formation of the union, than at any former period; and notwithstanding such result, the following statement, which applies to the three first weeks of the years 1836 and 1837, will show that the measures of the guardians have been equally advantageous to the rate-payers:—

HOLBORN UNION—OUT-DOOR RELIEF.

	1836.		1837.		1837.	
Jan. 7....	82	12 6½	.. 33	12 6½	.. 49	0 0
—14....	80	2 9 ..	.. 33	2 5 ..	.. 47	0 4
—21....	84	13 6 ..	.. 34	1 1½	.. 50	12 4½
	£247	8 9½	£100	16 1	£146	12 8½

IN-DOOR RELIEF.

	1836.		1837.		1837.	
Jan. 7....	702	..	528	..	174	
—14....	688	..	528	..	160	
—21....	686	..	525	..	161	
	2076		1581		495	

Expenditure, 2s 6½d per head per week.
 Diminution in three weeks of 1837, 62l 17s 9d.
 Total diminution in three weeks, 209l 10s 5½d.

For the whole of the previous quarter, the saving is on the same scale, and it may with great truth be said that, as regards the whole of the union the principle of relief for the period, 1836, was on a very reduced scale as compared with former periods; and the parish accounts of St. Andrew and St. George the Martyr show that at one time, namely, in 1833, the average of *weekly* outdoor relief for those parishes alone was 129l 7s.

If it be asked in what manner this saving has been effected, the answer is very plain and very simple—by a determination on the part of the guardians to attend strictly to their duty, in carrying the measure of the poor-law amendment act into effect—by throwing the able, but idle and dissolute, entirely on their own resources—by entering into beneficial and equitable contracts for the various necessary supplies, and by the strictest economy in all the details of the union.

BONE MANURE.

(FROM A CORRESPONDENT.)

The attention of the purchasers of crushed bones is called to the fact, that at this present moment the whole of the refuse from the glue yards of Scotland and Newcastle is imported into Hull for the purpose of grinding up with bones; it is a manure, I admit, but of very inferior value to bones, usually bought at 1s per bushel; the present price of bones, 2s 6d a bushel, holds out great inducement to adulterate. When you purchase crushed bones, let the merchant be asked the question (on oath) whether they are mixed with sawdust, scrapings of warehouses, refuse of glue yards, &c. The farmers of Lincolnshire, convinced of the facts above stated, are this year buying the bones uncrushed, and hiring portable mills for the breaking of them. It is intended to publish the names of the parties to whom vessels are consigned for the purpose of cheating the farmer.

ON THE CULTURE OF ASPARAGUS

There is, perhaps, no article in the culture of which more unnecessary forms are gone through than with this. We see the plant (a native of Britain) covered with 7 in., or perhaps 1 ft., of soil or litter, in winter, to keep the frost from it, or to mutch it when it is in a dormant state; though we may as well mulch a layer of seed potatoes at Michaelmas, to benefit their buds for the succeeding summer.

But to come to the point, and that is, to cultivate asparagus to the highest state of perfection at the lowest charges. Let a heap of manure, equal to a layer of 9 in. deep all over the ground intended for asparagus, be prepared of the following materials:— One-third good loamy turf, or turf of sandy peat; and two-thirds of the best dung from the stables and cattle layers; with about two bushels of drill bones to every pole of ground. The turf ought to be pared off, and piled up, a year previous to its being wanted; and the dung properly mixed and fermented at least six weeks before. The bone manure may be spread over the rest before they are trenched into the quarter. In the process of trenching, let the manure be equally incorporated with every part. In planting, let one-year-old plants be inserted 1 in. below the level of the surface, in lines alternately 9 in. and 3 ft. apart, in the same way as peas are generally planted. If the plot be extensive, paths, 3½ ft. wide, may be run across the rows, at the distance of 16 ft. apart, to prevent wheeling, and, as much as possible, walking, between the lines. The plants may be from 4 in. to 6 in. apart in the row, hedged and covered with leaf soil, or dung reduced to a soil; and, as mulching with half-rotten dung, and extensive waterings in dry weather, are the principal features of culture, it is indispensably necessary that the ground be effectually drained, summer drought and winter saturation being the grand evils to be guarded against. From the latter end of May till Michaelmas is the time that asparagus is generally left without any culture, except routine weeding, &c. Now, this is almost the only season that any culture can be of much service to the plant; for it is evident, that, if we encourage the plants whilst they are in a state of active development, that is, when they are shooting up to seed, by forking, frequent hoeing, mulching, and watering between the rows, as if flowers and seed were all we wanted, we shall invigorate the plants, and enable them to form fine plump crowns

for next season ; but I cannot see how banking the beds up with soil, or mulching them with strawy litter before winter (the roots being then in a state of rest), can be of any great service to the plants. A short time before the buds appear in spring, a little fine soil may be drawn over the crowns, in order to blanch the lower halves of the buds.

In cutting, let the earth be first scraped away from the bud, that the gatherer may see where and what he is about to cut. Two or three years must elapse, after planting, before any buds can be profitably gathered for use ; after which term, the lines may be allowed to remain until they become straggling and unproductive. In most gardens, however, they are generally wanted for forcing after six or seven years' bearing ; in which case only a very slight hot-bed is necessary, (say 80° bottom heat), with two inches or three inches of any soil under and about the roots ; and five inches or six inches of old tan, or any light soil, over them : atmospheric temperature about 55°.

Roots, placed between two layers of soil in pots or boxes may be introduced into any early forcing-house at work ; or trenches may be cut between the lines in the open ground, and hot dung or leaves introduced under hoops and mats. Beds for forcing asparagus, with trenches between cases with brick-work, I consider as expensive and unprofitable.—*Gardener's Magazine.*

PAPER MONEY.—HIGH PRICES.—This has by some been ascribed to combination, but *The Indicator*, an American paper, traces it to the paper money of the banks. It says—

“What was remarked by Cobbett in 1810, and admitted by the bullion committee, is now coming to pass in the neighbouring states. Flour, which sold at D5, is now up to D10. Wheat, which was D4, is now D2. Cord wood, which sold at D5, is now D9. Butter, cheese, and ‘almost every article,’ are in common language, equally ‘dear,’ or have advanced in price equally high. But it is not these articles which have positively risen. The increase of banks, and of paper issues, have had the effect of scattering more bank notes through the country. These representatives of money being more ‘plenty,’ as it is called, than the other articles, have brought an increased number of speculators into the market, and the bank notes or paper money, have depreciated or fallen in value, in consequence, just as apples fall in value the larger the quantity of them in market. Paper dollars are more ‘plenty’ in the market than wheat, or cord wood, or butter, or cheese, or ‘almost any other article.’ Now what is not as ‘plenty’ as paper dollars is more valuable than paper dollars, and consequently more of the latter must be given in exchange for the article which is not in such a large quantity in the market. Thus two of these paper dollars are now given for a bushel of wheat, for which only one was given before. Hence it is evident, that it is not the articles purchased, such as wheat, labour, &c., that have become dearer, but the paper money which has depreciated in value, and is not worth so much as it used to be, in consequence of the greater quantity of it issued by the banks.

“The above observations,” the writer adds, “will show the people of Upper Canada what they have to expect from the increase of banks by which that province is threatened by their representatives. In return for their produce they will get paper much depreciated in value. Prices will appear *nominally* to

advance. The present corrupt Assembly will thereupon sound their own praise, and persuade their dupes that they receive a greater quantity of bona fide value for the produce of their farms than they really do, whilst merchandize ‘rising’ in proportion, their profits will in truth be diminished. The consequence to the tradesman, the clerk, and others, who receive a stipulated price per month for their labour, will be pregnant with evil. Wages being the last thing that is affected by a rise of prices, and then only after the cause has been at work, they will receive in a depreciated currency the price of their labour. They will have to pay more of their wages for the necessaries of life than they were previously in the habit of doing.”

PLOUGHING MATCH.—The annual ploughing match of the parishes of Dunbarney and Rhynd took place on the farm of Kinmouth, occupied by Mr. John Isdale, on Wednesday, 1st Feb., when thirty-one ploughs started precisely at nine o'clock. Each man having his exact time allowed him to plough his lot, it is but justice to state that all the competitors performed their task in a most superior manner. The judges were, Messrs. Andrew Bennet, farmer, Upper Friarton ; James Harris, farmer, Dunbarney ; and Peter Scott, farmer, Mill of Gask ; who awarded, to the satisfaction of all parties, the prizes as follows :—

1. To William Storer, servant to Mr. Johnston, Balhepburn.
2. To Robert Currie, servant to Mr. Jolly, Grange of Elcho.
3. To Alexander Storer, servant to Mr. Kinnear, Efcho.
4. To David Christie, servant to Mr. Jolly, Grange of Elcho.
5. To John Green, servant to Mr. Clark, Oudenard.
6. To Charles Thomson, servant to Murray, Buckhall.
7. To David Proudett, servant to Mr. Stocks, Mains of Kilgraston.
8. To Dd. Nicol, servant to Mr. Thomson, Horse mill.

After the proceedings of the day were over, the farmers connected, along with the judges and a few friends, dined at the bridge of Earn, and spent a most agreeable evening.

PLOUGHING MATCH.—INSURE, FEBRUARY 4.—A ploughing match took place this day on two fields of lea at Millhill, one of the farms which the Right Hon. Lord Kinnaird has retained in his own possession. The day being very favourable, there was a good turn out of both farmers and others to witness a scene so novel and interesting in this district of the country. The work, taking it altogether, was uncommonly well done—for when the judges, Messrs. Wm. Constable, farmer, Unthank ; Alex. Drummond, Polgavie, and Chas. Playfair, Easter Inchmichael, were called to inspect the work performed, they acknowledged the difficulty of the task. After a most careful and minute examination of the work done, they awarded the prizes, five in number, (and two extra ones recommended by the judges for being nearly on a par with him who gained the fifth prize), as follow :—

1. To James M'Donald, servant to Mr. Robert Constable, Baledgarno.
2. To William Doig, servant to Mr. James Boyd, brewer, Inchture.
3. To John Henderson, also servant to Mr. Robert Constable, Baledgarno.
4. To Peter Strachan, servant to Mr. Edmund Dodds, Bullian.

5. To John Miller, servant to Mr. Smith, West Mains of Inchture; and the two extra prizes—the first to Francis Sime, Millhill, and the second to John Bruce (a deaf and dumb lad), servant to Mr. Alexander Drummond, Polgavie.

The ploughmen, before starting home, were plentifully supplied with bread, beef, beer, and whiskey, on the occasion; and the judges, farmers, and others, in all about a hundred, sat down to an excellent dinner at Millhill, Mr. M'Laren, chairman, and Mr. Wm. Smith, croupier, where they spent a most happy and pleasant evening.

TURNIP CABBAGE.

SIR,—Knowing you to be at all times willing to publish useful information on any subject connected with agriculture, I forward you a few observations on the use and cultivation of the turnip cabbage, (not the great Waterloo cow cabbage, which has been represented to grow 20 feet high, and to produce a sufficient quantity of food to support 6 cows for 12 months, and the stems to be used as timber for building! No, this turnip cabbage is not of so gigantic a growth.) It has a bulb, or apple, growing on a stem from 2 to 4 inches from the ground, with considerable top, or leaf resembling those of the brocoli; the bulb frequently measures from 20 to 24 inches in circumference, and 6 or 8 inches in diameter; is very sound, and of good quality, particularly for ewes and lambs, and milch cows. For this description of stock they are preferable to Swede or any other variety of turnips, cabbages, or mangel wurzel, for the following reasons:—1st. The Swede turnip will not force so much milk, and it is generally acknowledged lambs do not do well when the ewes are feeding on them, and at the time of year they are most wanted for this purpose they become hard and sticky, the lambs cannot eat them, and the ewes have great difficulty in doing so unless they have excellent mouths. 2ndly. Every other description of turnip is less hardy; and after Christmas the quality is very much deteriorated, and in a severe winter a great portion becomes rotten and useless. Independent of these objections a considerable part of all turnips grow under ground, consequently, in wet weather particularly, the sheep must eat a considerable quantity of dirt with them, which from some soils does great injury. 3rdly. The drumhead, and all other cabbages, are frequently much injured by frost, the outside leaves become rotten and unfit for food, and that portion which is sound is not of so good a quality as the plant above alluded to, nor will it force so much milk. 4thly. They are preferable to mangel wurzel, as they can be obtained at considerable less expence, and may be fed on the land on which they grow, which is not the case with the mangel, that must be taken up, and carefully housed (or clamped) to protect it from frost; but the turnip cabbage will stand perfectly sound through the most severe winter. This plant may be successfully cultivated on that description of land which will not grow good turnips as, a proof of which, Mr. Denton of Madingley, Cambridgeshire, has two years successively grown them together, (that is, in the same field and on exactly the same soil,) each year he has had a very great weight of the turnip cabbage, but the turnips have proved nearly a failure; not producing one-sixth of the weight per acre, although the seed grew well and the plants were thick enough on the ground, but they did not grow to any size although manured very highly, for some of them drilled on the ridge and some on the flat. Mr. D. has several years tried to grow turnips on this soil, (which is strong black land) but not in one instance has he succeeded. In 1835 he planted two acres of the turnip cabbage, about two acres of the drumhead, and about two acres, of the thousand head cabbages, in the same field he had some Swede turnips and rye; early in the spring he turned his couples (ewes and lambs) into this field, and let them ramble where they pleased, and partake of that food they liked best; after walking about some time,

tasting first one and then the other, they at last fixed on the turnip cabbages, and eat the whole of them, even a portion of the stem, before they began to feed on either the drumheads, thousand heads, turnips, or rye; (this was done as an experiment to ascertain which of the five sorts of food they preferred.) Mr. D. is confident he never knew his ewes do so well, nor lambs thrive so fast, as they did when feeding on them. This year he has got a very fine piece at least from 27 to 28 tons per acre. I make my calculation of the weight as follows: they are planted three feet between the rows and two feet apart in the rows, consequently, if they had all grown, there would have been in number 6,969 plants per acre, but as near as I could judge about one in 100 had missed, thus reducing the number to 6,899 per acre; I weighed 12 of the largest and 12 of the smallest I could find; and the average was 8lbs per plant, (after being freed from the root and dirt); thus the weight amounts to 55,192lbs, or 27 tons, 10 cwt, 2 qrs, 16lbs per acre. I am certain I have not estimated the weight beyond the mark. There are several other excellent crops of this plant in the neighbourhood, from 18 to 22 or 23 tons per acre. All those who have grown them two or three years speak very highly of them, particularly as early feed for ewes and lambs, all asserting that the ewes produce more milk, and the lambs thrive faster than when feeding on any other vegetable.

The best method of cultivating this plant is to prepare the land as for a turnip crop, then to draw furrows with a double busted plough three feet apart, deposit the dung in the furrows and close it in, which will form ridges the same as on the Northumberland system of growing turnips. The plants to be raised on seed beds, and when they are about four inches high should be planted on the ridges (prepared for them) 20 or 24 inches between each plant, and if the land is not tolerably moist it is advisable to water them at the time of planting, and again in three or four days after. The seed to be sown on the beds the beginning of May, the plants will then be ready to put out by the middle or latter end of June. The after culture the same as for mangel wurzel, or any other description of cabbage. Trusting these observations may induce your agricultural readers to try them,

I am, Sir, your obedient servant,
AN AGRICULTURAL TOURIST.

Cambridge, Jan. 10, 1837.

The promenade of the celebrated *boeuf gras*, which weighs 3,980lb., and is just seven feet six inches in height, will commence to-morrow (Sunday) in the following order:—At 11 o'clock the animal will leave the abattoir in the Faubourg du Roule, by the rue Miro-menil, and the Faubourg St. Honoré, proceeding to the residence of the owner, M. Rolland, No. 363, rue St. Honoré, (who has for three successive years had the honour of providing the *boeuf gras*, and who on the present occasion paid 2,750 francs for his purchase.) The procession will proceed thence to the hotels of the Minister of Justice, rue Neuve du Luxembourg, the Minister of the Marine, rue Royale, St. Honoré; the Minister of Finance, rue Rivoli, and the Chamber of Deputies. Afterwards it will proceed by the rue de l'Université, rue du Bac, rue des Saints Pères, rue du Dragon, rue de Seine, and to the Chamber of Peers. From the Luxembourg the procession will take the rue de Vaugirard, Place St. Michel, Place de l'Estrapade, to the Gobelins, whence it will return to the abattoir by the rue du Jardin-du-Roi, rue Saint-Victor, Place Maubert, rue Galande, Pont Notre-Dame, rue Saint-Martin, Boulevards Saint-Martin, Saint-Denis, Bonne-Nouvelle, Poissonnière, Montmartre, des Italiens, des Capucines, and the rue de la Madeleine. On Tuesday the procession will leave the abattoirs also at 11 o'clock, and will take the rue St. Honoré, and the rue d'Alger to the Tuileries. Thence it will proceed by the Place du Carrousel, the Quai du Louvre, and the Pont Neuf to the Prefecture of Police, and, by the Quai des Au-

gustins, to the Hôtel de Ville, where, after its reception with all due civic honours, the gay cavalcade will return by the rue du Mouton, des Lombards, rue St. Denis, Marché des Innocens, Point St. Eustache, rue Montmartre, des Fossé-Montmartre, Place des Victoires, rue Neuve-des-Petits-Champs, Marché St. Honoré, to the residence of M. Rolland the proprietor, thence to the abattoirs. The dresses and decorations to be displayed during the procession will be extremely varied and much more splendid than on former occasions; the cavalcade will be more numerous, and the music, which has hitherto been furnished by the National Guards, will be replaced by a band of one of the cavalry regiments.—*Galignani's Messenger* of Saturday.

TIMBER.

The following statement we find in the *Bytown Gazette*:—

Statement of Red Pine Timber, in transitu, from the Ottawa River, at the close of the navigation, 1836:

Laid up between the Roche Fondeau and the Chaudiere Falls.

David Moore, Roche Fondeau	180,000 ft.
A. H. M'Donald, do.	48,000
W. & J. Thomson, River Du Chene	72,000
F. Bearman, do.	80,000
N. Sparks, do.	88,000
J. Egan, do.	32,000
Wells & M'Crea, Gathneau pt.	48,000
Atkinson and Co., do.	88,000
<i>Below the Chaudiere Falls.</i>	
Wells and M'Crea	100,000
S. Adams	40,000
W. M'Bean	24,000
Peter Aylen (Little River)	32,000
D. Moore, do.	48,000

Total..... 840,000 ft.

“The above statement has been furnished by a friend, (yea, an independent one,) and per perhaps will be found to come as near accuracy as it is attainable upon such a subject, where conflicting interests step in so forcibly to mystify facts. We are, however, warranted in stating, that from the exorbitant prices of provisions for man and beast, the quantity of lumber intending to be got out this season will fall far short of what was originally expected.—*Montreal Herald*, Jan. 10.

THE MAGAZINE OF DOMESTIC ECONOMY contains many useful hints. From the number for the present month we take the following extract:—

“BREAD FOR CATTLE AND HORSES.—Experience has proved in Sweden that one ton of oats make 480 loaves, on which a horse may be better kept (at the rate of two loaves a day) for 240 days, than if he had had six tons or even more of raw oats. The husk of the oat remains mixed with the flour; the weight of the water used in making the dough is gained, and a great deal of water is necessary. With a given quantity of wheat flour, without the husk, a quantity of bread is made for the use of man, weighing more than the raw grain with the husk. On the other hand, a less weight of bread than of oats should be given to horses, because the bread is more nourishing, especially if rye be mixed with the oats. It has been calculated in Sweden, that after all expenses have been taken into consideration, a great saving is effected by feeding the horses on bread made of oats and rye. They never give them hay, without mixing it with two-thirds of chopped straw, and adding bread broken up. The better to preserve this bread, it should be made in the shape of cakes; and if it be prepared like biscuit, it will keep very long without losing its nutritive qualities.”

ABSCESS IN THE THIGH OF A HEIFER.

BY MR. POPE, TARVES, ABERDEENSHIRE.

(From the *Veterinarian*.)

I was sent for on the 30th August, 1834, by Mr. Pirie, miller, of Torrie, to see a quey which was taken badly the day before. When I saw her she was down, and unable to rise; pulse 97, and mouth very dry. I commenced feeling for the part affected, when I found the disease seated in one of the thighs, which crackled when I handled it from the pelvis all the way down to the hock joint. I bled her freely from the neck, and gave a cathartic (magnes. sulph.); I then took my lancet, and made several pretty large punctures in the swelled parts; inserted a seton; got some warm water (as warm as could be admitted of) and commenced fomentations, and continued them for four hours, after which I rubbed her dry, and gave injections, &c.

I continued laxatives, injections, and fomentations for a week; at the expiration of which time, matter formed, and was freely discharged, and I rested satisfied that my patient was doing well. At the expiration, however, of three weeks, I was somewhat surprised that the swelling continued, the parts having discharged so well. I made a deep incision about three inches in length, and introduced my fingers; when, to my no small astonishment, I found the fleshy fibres completely detached from the femur. I immediately enlarged the orifice, and extracted five pounds weight of the deadened mass, and cleansed the parts well with warm water and soap, after which I applied astringent washes. At this time the poor animal could not stand, her frame being so much debilitated; but at the end of a week she contrived to support herself when helped up, and after that she gradually recovered, and is now a fine thriving cow.

LAW OF SETTLEMENT.—The decision of the Court of King's Bench last week, in the case “*Rex v. Stoke Damerell*,” will open a new ground for determining the settlement of a pauper. The point of law was raised nearly two years ago by one of the parishes of the city of London; but the Recorder, before whom the appeal was argued, was so clearly of opinion that the ground was untenable, that he refused to grant a case for the opinion of the judges. The country magistrates, it seems, took the same view of the law as the Recorder, but they allowed the parish authorities of Stoke Damerell to appeal against that view, and they have appealed with success. In the city case a person named *Walt* occupied a house in Gravel-lane, St. Saviour's Southwark, at 24*l*. a-year, for two years. He paid more than one year's rent, and all the parochial rates and taxes. Falling into distress in the parish of St. Faith-by-St. Paul, he was, under the opinion of Mr. Payne, their legal adviser, passed to St. Saviour's, on the ground that although the pauper did not gain a settlement by renting only, inasmuch as he let a part of the house to lodgers, yet he did gain one by paying taxes and parochial rates for that house. St. Saviour's appealed against the removal, and Mr. Payne, the barrister, contended at the London Sessions that the removal was good. An act, 3 William and Mary, cap. 11, enacted, that any person charged with and paying public taxes or levies of a town or parish should be deemed to have a settlement there. The statute 6 George IV., cap. 57, declared that no person should gain a settlement by renting or paying parochial rates, unless the party actually occupied and rented a house of 10*l*. a-year for the whole term of one year. This act, therefore, recognises the gaining a settle-

ment by paying taxes as a mode distinct from that by paying rent. A law was subsequently passed to explain the above statute, but in the enacting part its terms are clearly restrained to settlements by renting, and so the Court of King's Bench have just decided. A person, therefore, who occupies a house above the value of 10*l*. a-year for one whole year, and duly pays the rent and rates, does not gain a settlement by the payment of those rates, even though he should let a part of the premises to lodgers, which would extinguish his settlement by renting.

FARINGDON.

At a numerous and respectable meeting held at the Crown Inn, on Tuesday, the 7th of February, to consider the propriety of establishing a **REGULAR MONTHLY MARKET** for the SALE of CHEESE,

MR. JOHN WILLIAMS in the chair,
The following resolutions were put, and unanimously carried:—

1st. That the establishment of a regular monthly market, for the public sale of cheese, in the town of Faringdon, has, not only by the dairymen in the adjoining districts, but also by several persons connected with the cheese trade, been long and anxiously desired, as ensuring to the former a *fair current* price according to the quality of the article, and to the latter the certainty of an ample and varied supply.

2nd. That Faringdon, situate in the midst of a tract of pasture land, unrivalled in extent and fertility, and commanding the greatest advantage for the conveyance of goods both by land and water-carriage, is peculiarly well adapted for the successful establishment of the proposed object, affording to the cheesefactors and dealers not only of Cirencester, Witney, Oxford, Abingdon, Reading and Newbury, but also of London and Birmingham, a *known* and central market, whence they may *monthly* derive as *large* and *well-sorted* a supply as the extent of their business may demand.

3rd. That the *first* market be held *on* Tuesday, the 7th of March, and the succeeding markets on the first Tuesday in every month regularly.—That to defray the expenses attending the establishment, and support of the market, a subscription be entered into, and that Messrs. Williams, Medley, Bennett, Bennett Thomas, Coster, Dyke, Edmonds William, Fereman, Gerring William, James George, Myers Charles, Rickards Wm. Henry, and Sargeant, with power to add to their number, form a Committee, any three of whom have power to act.

4th. That Charles Medley, Esq., be authorized to receive subscriptions and to act as Treasurer to the Committee.

5th. That the foregoing resolutions be inserted in the journals of this and adjacent counties.

That the thanks of this meeting be given to Mr. Williams, for his able and impartial conduct in the chair.

HEREFORDSHIRE AGRICULTURAL SHOW.—On Monday, February 6, the Annual Show of our Agricultural Society took place, in a piece of land belonging to Charles Bulmer, Esq., at the Portfields, between Widemarsh and Eign Gates, admirably adapted for the exhibition, and which he has several times kindly permitted the Society to use gratuitously for the purpose. The show of Bulls was the finest we ever witnessed; about 40 superb animals, all of them of our celebrated county breed, and belying the old adage "as savage as a bull, for they were remarkably gentle and obedient to those who had the care of them, were in the enclosure; and without it, about Eign-gate, were between 40 and 50 more, mostly young, but promising candidates for prizes on future occasions. The Judge, Mr. A. D. Jones, appeared to take great care in the examination of the different animals, and was some time in determining the award of the prizes. An aged Bull, and a

yearling, bred by Miss Tomkins, of King's Pion, attracted general attention, and were much admired. The first premium for aged Bulls, and the second premium for yearling Bulls, were awarded to these animals by the Judge, but unfortunately for Miss Tomkins, they did not arrive at the show meadow before the Judge had entered on the ground, and both the bulls were disqualified from taking the prizes. A bull, bred at Croft Castle, an immense size for his age, also excited the admiration of all who saw the animal. Of the stallions, a two-year-old cart, belonging to Mr. Price, of Upperton, shown as extra, was greatly praised by competent judges. The prizes were awarded as follow:—

For Best Yearling Bull, a silver goblet, to Mr. Jones of Breinton.
Second-best Bull, a purse of three sovereigns, Mr. J. Walker, of Burton.
Best two-year old Bull, a goblet, to Mr. Jeffries, of Rose Cottage.
Best three-year old Bull, a goblet, to Sir Robert Price, Bart. M. P.
Best aged Bull, a goblet, to Mr. J. Morris, Stockton.
Best cart Stallion, a goblet, to Mr. Handcocks.
A Horse of Mr. Davies, of Kenchester, was much admired.
Best thorough-bred Stallion, a goblet, (Gift of the Rev. L. Penoyre) to Mr. Devereux's Dandelion, of Bromyard.

There were 20 competitors for the prize for yearling bulls—six for the two-year-old—eight for the three-year-old—and five for the aged Bulls' prizes. Four for cart, and three for thorough-bred stallions. Amongst the exhibitors of stock were—Mrs. Davies, Croft Castle, the Misses Tomkins, Sir R. Price, Mr. Bate, Mr. Galliers, Mr. Morris, Mr. Perry, Mr. Walker, Mr. T. Tully, Mr. West, Mr. Lewis, Mr. Roberts, Mr. J. H. Apperley, Mr. J. Turner, Mr. J. Jones, Mr. Matty, Mr. C. A. Mason, Mr. Jefferies, jun., Mr. Bluck, &c. The Dinner at the Hotel was very well attended, P. Jones, of Sugwas, presiding, and supported by Sir J. G. Cotterell, Sir R. Price, James Phillips, Esq., J. H. Burr, Esq., Fowler Price, Esq., Capt. Johnson, J. H. Johnson, Esq., Rev. L. Penoyre, &c.; and the evening was passed in the social and pleasing enjoyments which always distinguish these meetings.

RENT OF LAND.—The average rent of the several counties of England and Wales is said to be—Westmorland 9s 1d, Cumberland d.9s 7½d, Cornwall 10s 3¾d, Hants 11s 5d, Sussex 11s 8½d, Monmouth 12s 9¾d, Suffolk 14s 3¾d, Norfolk 14s 4½d, Durham 14 5d, Devonshire 14s 8½d, Dorsetshire 15s 2½d, Surrey 15s 2¾d, Northumberland 15s 1¾d, Cambridgeshire 16s 6½d, Berkshire 16s 10d, Hertfordshire 16s 11¾d, Huntingdon 16s 11½d, Herefordshire 16s 5d, Yorkshire 16s 8d, Shropshire 17s 2d, Kent 17s 5d, Bedford 18s 4¾d, Essex 18s 5½d, Wiltshire 18s 6½d, Derbyshire 18s 10¾d, Nottinghamshire 19s 11½d, Staffordshire 20s, Gloucestershire 20s, Cheshire 20s 1½d, Rutland 20s 9½d, Lincolnshire 20s to 21s, Oxford 20s 6¾d, Buckinghamshire 21s 1½d, Northamptonshire 21s 5d, Worcestershire 22s 4d, Warwick 22s 5½d, Lancashire 22s 5½d Somersetshire 25s 9d, Leicestershire 27s 2¾d, Middlesex 38s 8½d, Wales 6s 8d.

THINGOE UNION.—The Guardians of the Thingoe Union have forwarded an Address to Lord John Russell, expressing their satisfaction with the working of the New Poor Law. They also inform his Lordship, that a saving of 4,000*l*. has been accomplished in the space of three-quarters of a year, as compared with the averages of the same time taken three years previous to the formation of the Union.—In a statement published by the Board of the Hartismere Union, a saving is also shown of 7,642*l*., or 40½ per cent., in the first year of the Union.

THE PRESENT EPIDEMIC AMONG HORSES.

PRESENTED BY THE PRESIDENT.

(From *The Veterinarian*.)

[Concluded from page 106.]

Mr. HARVEY had under his care at least 200 horses affected by this epidemic. He always, if called in an early stage of the disease, bled once, often twice, and he has bled as frequently as three or four times. He also gave from two to three drachms of aloes. He had not experienced any had consequence from either the one or the other, but quite the reverse.

Mr. SIBBALD likewise felt astounded when he heard the detail of the practice of Mr. Cheetham, and he feared for his young friends. For his own part, he was satisfied with about a drachm at a dose, repeating it every two or three hours. As to blood-letting, he was quite of opinion, that, speaking practically, the course recommended by Mr. Turner, was the right one in cases of febrile affection; yet this was a peculiar febrile affection, and some caution was required. Bloodletting under the immediate eye of the practitioner, and not going too far, would be useful; but when he heard of 16lbs. of blood being abstracted, he must strongly protest his dissent—four or five pounds might be taken away with advantage. He is not sure that this is a purely erysipelatous disease; the first inflammation was that of the bronchial tubes; nevertheless, of two dangers, the greater one must be avoided. He would certainly bleed if the pulse was full and frequent; but so far as his practice went, there was not often great derangement of the pulse at the commencement of the attack. Two horses that came under his treatment died. One of them had lost seven or eight quarts of blood, and had walked a mile or two afterwards. He died in about twelve hours. The other lost his life after being bled. He then thought that he would abstract no more blood, but he soon found that there were circumstances in which common sense and duty compelled him to bleed. He had seen the mouth and nostrils completely livid. He would not bleed then; there was not a drop of blood to be lost then. These, however were cases of relapse, and required stimulants. If, the faces were hard or slimy that state of them must be altered; he gave in such cases half scruple doses of the farina of the croton nut, and generally found that in twelve or thirteen hours the bowels were moderately opened. If he had given more, he should have injured the animal. Mr. Cheetham gave porter. He acknowledged that he had done so, and with very good effect: he had given a pint of mild beer twice or thrice a-day. There is another point against which the practitioner should be on his guard,—when the appetite is returning, the groom is too apt to overload the horse with food. The food which in that state is safest and best is carrots.

Mr. WALLIS.—In the cases in which he had carried depletion to a considerable extent, the respiration was laborious and the pulse was frequent and bounding.

Mr. SPOONER said that every one must be sensible of the useful and important character which the debate had assumed. He moved that it should be adjourned until the next meeting, in order to give those whose opinions and practice had been impugned the opportunity to defend themselves.

Mr. SEWELL perfectly concurred with Mr. Turner in his view of the present epidemic, and the treatment of it: as to the cause of the malady, until some bet-

ter one was assigned, he must adhere to his expressed opinion, that it was connected with the escape of some mephitic gases from the earth in the late convulsions that had taken place. Even Mr. Youatt, who had doubted that this was the cause of the epidemic had assigned no other, and had acknowledged his inability to point out any definite cause. At Paisley, and other parts of Scotland, the inhabitants had been terrified by these terrestrial commotions, and the influenza had again broken out, as here, in full violence. He acknowledged that the subject of meteorology deserved far more attention than the veterinarian was accustomed to pay to it; but he did not see that, as yet, any light had been thrown on the present question.—(Conclusion of second day's discussion.)

The President announced the renewal of the debate on "The present Epidemic," stating that he had received accounts that it was still prevailing in different parts of the country, and that, on the whole, the depletory system was adopted.

Mr. SIBBALD begged one moment's attention, before the adjourned debate was resumed. He had been astounded, at the meeting before the last, at the quantity of certain drugs administered by some individuals: he thought the Association would be equally astonished at the bulk or weight of medicine, of whatever nature it might be, which a practitioner had thrown into the stomach of an unfortunate horse labouring under this complaint. He was not willing to injure or to condemn any individual, and therefore he would mention no names; but he had obtained the contents of the stomach of a horse, in which not a particle of food had been found; but as much medicine as perhaps was ever accumulated in the stomach of a poor patient since the veterinary art began to be practised. He would not say that the horse was poisoned, but the mere specific gravity of the mass would go no little way towards the destruction of the animal. He then produced a mass of partially dissolved horse-balls, weighing, as he said, 2lb. He supposed that this practitioner was not paid for his attendance; he would be quite, and some would say more than enough, paid *by the ball*. He was no Homeopathist—no infinitesimal-dose man; but a straightforward energetic practitioner.

(There must have been more than a dozen balls partially dissolved by the fluid of the stomach. The smell indicated ammonia, and some thought asafetida; and the burning betrayed both nitre and camphor.)

Mr. SPOONER rose to explain some observations which had fallen from him on a former evening, and which might not be then understood in the same extended meaning which he intended to affix to them. When speaking of the nature of this disease, he considered it as an integumental one—not only of the outer tunic, but of the internal or mucous membrane, and principally of that. He listened with pleasure to the opinions of Mr. Youatt on that point, with most or all of which he fully agreed. To some things asserted by Mr. Turner he could not so readily give his consent. He said that this disease was considered to be an affection of the cellular and mucous membranes; and then, that the serous membranes were considered by himself and Mr. Field as little or not at all implicated. He was of opinion that the serous membranes are also involved; but this more as a consequence of an extension of inflammation, which, by inducing debility in the capillary vessels, causes them to throw out a serous effusion. He was also surprised that Mr. Turner, when speaking of the early symptoms of the disease—the swelling of the eye-lids—the loss of appetite—the parched tongue—

the set limbs—the complete prostration of strength, said nothing of the pulse; for himself, he regarded the pulse as the first indication of treatment, and the surest guide. He agreed with Mr. Turner in considering the disease as primarily of an inflammatory character; but he had almost invariably found that this fever soon passed away, and was succeeded by a loathing of food, and a marked debility of pulse that did not, in his mind, warrant him in abstracting blood largely from the system. His treatment was always governed by the pulse, not solely or, perhaps, principally by the frequency, but by the type, the peculiarity of the pulse; likewise taking into account the probable causes of the peculiarity which he observed. In quitter there is a quick and full pulse, and one that would in other circumstances indicate considerable depletion; but the cause of that pulse was evident—it was a pulse of irritation, and would be most quickly and safely brought to its healthy standard by attention to the local seat of disease. He was a little surprised to find that although Mr. Turner described great prostration of strength as one of the earliest symptoms of “the present epidemic,” the pulse being “as weak as water,” he not only bled largely at first, but frequently repeated the depletion. It struck him that there was a little inconsistency of practice here; and no little doubt arose as to the propriety of the strenuous practice recommended. If I detract blood from an animal labouring under inflammation, my attention is or ought to be occupied, not by the determined abstraction of a certain quantity of blood, but by the accomplishment of a certain purpose by the abstraction of blood. I wish to produce a salutary effect on the nervous system. If the pulse is one of inflammation, I can lessen the power, or the powerful working of the machine, by abstracting a portion of that which is the vital principle of action. If it is a pulse of irritation—if there is an irregular working of the machine, rather than a more powerful one—I may reduce it to its proper and useful motion by the same means. I am guided by the effect I mean to produce; and I am anxiously watching the progress I am making in the accomplishment of that effect. It is time to have done with the too-prevailing practice of abstracting definite quantities, and especially definite large quantities. We are attempting to produce an effect, and we should be watching the accomplishment of that effect. It is very easy to abstract too much moving power, and to render it difficult to set the machine vigorously at work again. Mr. Abernethy used to caution his pupils against the practice of detracting blood largely from the system in cases of local inflammation. “You are taking away from your patient,” said he, “a fluid which can only be supplied again from the absorbent or digestive system; but, perhaps, from the local pain and the constitutional irritation which is the consequence of it, his appetite has already failed, and you deprive him of that energy of system which is necessary to give effect to the local means which you are employing.” All this while, perhaps, the state of the patient evidently demanded bloodletting; but it was against the inconsiderate and reckless abstraction of it that he was contending.

He confessed, that in many cases in which he had taken blood, the animal was longer in recovering than in others in which he had refrained; yet, were he again placed under the same circumstances, he should again act in the same manner. The cases were not alike. In the one, the powers of nature were sufficient to effect a cure, and little more than patience was required from the practitioner; in the other, there was a weight by which nature was op-

pressed, which it was imperative to remove, and her powers had been impaired by that struggle. It is necessary in some of these cases to tranquilize the system before the recovery can commence, much less be completed; and he knows not of the drug which has that soothing sanative power. He is, therefore, driven to the lancet. If he had not bled, the powers of nature would have been quite exhausted; the structure would have been altogether consumed.

Bleeding is occasionally or generally indispensable; yet the disease may be ushered in by symptoms that will not warrant bleeding; and even where the abstraction of blood is most clearly indicated, we must be on our guard. We cannot do as we would in pneumonia. We must abate irritation, but we must not undermine strength.

MR. SEWELL.—Since the last meeting two cases had occurred in the College; one in a horse in the open sheds, and the other standing in the stable. The one in the sheds was a heavy cart-horse. It commenced with œdema of the legs, drowsiness, closing of the eyes, œdema of the lids. He bled to a considerable extent. He abstracted five quarts of blood at first: there were two bleedings on the second day, and one on each of the two following evenings. There was great embarrassment of the system; the horse hung his head to a more than usual degree. He had the full weight of it when he attempted to lift it up. Every bleeding afforded immediate but transitory relief. He kept his finger on the pulse while the blood was flowing, and stopped as soon as the pulse began to falter. He believed that the horse would have been lost had it not been for these bleedings. He seldom, or almost never, saw so thick a buffy coat as the abstracted blood presented; full three inches out of five consisted of this yellow supernatant substance. There was but little serum. He gave three drachms of Cape aloes as an aperient; administered nitre in the water, to the extent of half an ounce daily; and threw up frequent clysters.

The other was a four year old colt, without this decided cerebral affection. He was bled, but not so copiously or frequently. In other respects the treatment was the same. Both are doing well.

He had likewise the head, and the contents of the thorax and abdomen, of a horse that had died of influenza sent to him. The membranes of the brain were most highly injected; there was extravasation of blood under the dura mater, and in the fissure between the hemispheres, and also at the base of the brain. The substance of the brain exhibited evident symptoms of inflammation; and the lateral ventricles were distended with serum. The membrane of the frontal sinuses was highly injected; the nasal cavity almost livid, and highly engorged with blood. There was great œdema of the lids—they were everted—the cornea was obscured—the fluids of the eye were of a bloody tinge—there was an inflammatory blush on the retina, and every vessel going to the eye was gorged with blood. The membranes of the larynx, trachea, and bronchi of one lung were of a green colour: it was in a perfectly gangrenous state, and horribly fetid. In the lungs was some appearance of previous tubercular disease. The stomach was comparatively little affected. The small intestines exhibited few or no appearances of active inflammation. The cæcum and colon presented more inflammation, and were, in a manner, distended with food; while the rectum was actually clogged with dry and hard fæces, which it was utterly impossible for him to have got rid of without the aid of clysters. The kidneys were in the highest state of inflammation, or rather of disorganization. If he had been shewn the

different parts of the horse separately, he should have said there was quite sufficient cause of death in the head, and in the trachea and bronchi, in the larger intestines, and in the kidneys. He knew nothing of the treatment; but it was a case that plainly indicated the occasional use of bleeding. Here was an illustration of the extensive ravages which it occasionally committed, and of its Protean character. There was some doubt in the minds of practitioners generally, and there had been in his own, as to the contagiousness of the complaint. The inclination of his opinion had always been that it was contagious; and he had heard of a case to-day which much confirmed him in that opinion. A horse was bought in London with a cough on him. The cough was pointed out to the dealer, who said that it was a matter of no consequence, and, indeed, the horse appeared to be otherwise well. No sooner, however, had he arrived at the stable of his new master in the country, than he sickened with influenza, and every horse in the stable eventually had the same complaint. He had previously heard of similar instances, in which it had been thus brought into healthy stables. He was sorry that he had not had the opportunity of trying this point. One of the horses in a brewery at which he had attended had pus in the cavities of the turbinated bones, and other neighbouring cavities. He had inoculated an ass with this matter, and it died eight days afterwards of inflammation and serous effusion, both in the pericardium and peritoneum, but principally in the former. He had not much faith in these experiments on asses; for they came from the abodes of cruelty and want, and were generally in a very debilitated state. He would take an early opportunity of putting the subject of infection to the test. He would make a living horse stand over one that died of influenza and had been opened, and would compel him to inhale the vapour which arose from the parts; or he would place certain portions in the manger; or he would shut up the sound horse with another that had infection strong upon him.

Mr. DICKENS.—It is generally the case with the country practitioner, that something is done to the patient before he is called in. In all cases of this kind which he had seen, venesection had been practised, and occasionally to considerable extent. He never found that harm had been done by it. Some of them he bled again, always paying attention to and having his finger on the pulse. If he found constipation, he gave small doses of Barbadoes aloes, never more than two drachms; and, after that, nitre.

Mr. TITMARSH.—The symptoms that had most usually occurred in his practice, were harshness of the coat, refusal of food, embarrassed respiration, irritable pulse. To these followed, or sometimes were seen at first, effusion in the extremities—swelling of the eyelids, lips, and head generally—coma—constipated or relaxed bowels. Bleeding!—the question of discussion and dispute—he had seldom had recourse to it; he gave no purgative. He gave nitrous ether, and, occasionally, other medicines to keep up the action of the kidneys; he clothed well, and lightly bandaged the legs. When the horse began to eat, he allowed him almost liberally succulent and farinaceous food. If the bowels were confined he administered injections, but no purgative by the mouth. If the throat was sore, and there was cough, he used stimulants, extending, if necessary, down the trachea.

There was one case in which the serous membranes were evidently and violently affected. A mare breathed most laboriously, lay down and started up, and turned her head continually to her sides. He

abstracted three quarts of blood. Three hours afterwards he took away two quarts more. He would have taken more, but was afraid. He had influenza in the yard, and he did not know what character this disease might afterwards assume. He gave nitrous ether and digitalis, and blistered the sides well. On the next morning the blister had not had effect: he blistered again, and in the evening the blister rose. Then came a little swelling in one of the legs—Ah! said he, this is influenza at last. The swelling extended—it reached to the groin—it was very painful. Both legs were swelled, and then the neck and the head. He had nine other cases in the same yard that he did not bleed; yet he bled her; but she became more debilitated than they in proportion to that bleeding. He gave tonic medicine, and then tonic food, namely, infusion of malt. Out of forty-seven patients under influenza he did not lose one. When the angular veins were distended, he did open them in three of his patients, and suffered the blood to flow freely. He wished to know what state of pulse Mr. Dickens found, when he felt himself warranted in bleeding.

Mr. DICKENS.—He did not always bleed, but he generally did; and when the pulse was from 50 to 70, and full.

Mr. TITMARSH had not met with a full pulse in influenza.

Mr. BROUGH asked, what then was the character of the pulse?

Mr. TITMARSH.—One quicker than usual, but weak, tremulous; shrinking under the finger. He knew not how to describe the peculiarity of it, but it plainly spoke of debility.

Mr. BROUGH.—What, then, would induce you to bleed?

Mr. TITMARSH.—When the respiration was embarrassed, and the nasal membrane florid, and not beginning to suppurate. If he saw discharge from the eyes or nose, he would be cautious how he bled. Is it usual to see spontaneous purgation in these cases?

Mr. SIBBALD.—I have seen many.

Mr. DICKENS.—I have had many cases, but they were weak horses.

Mr. TITMARSH.—In the farmer's yard to which he before alluded, out of his nine patients, the greater part of them had spontaneous purgation.

Mr. DICKENS.—The faecal matter in these cases has a very peculiar smell.

Mr. FIELD.—There is, and there always will be, a great variety of opinion as to the nature and treatment of this influenza: it is, however, fortunate for practitioners and their patients that every variety of treatment seems to be equally successful. As regards the seat of this disease we are agreed; but we differ in regard to its exact nature, and therefore cannot agree upon the name which should be applied to it, or its mode of treatment. He formerly stated that he believed its seat to be in the skin and its involutions;—by the involutions he meant the mucous membranes. The body was enveloped by a cuticular membrane without, and a mucous membrane within. Disease attacking the mucous membranes has a low typhoid character. This is the case with catarrh and bronchitis, in which there is an effusion of mucous into the bronchial tubes and air-cells: where that had taken place, and depletion is had recourse to, the evil is increased, and the animal dies. If the skin is inflamed, there is also effusion into the subcutaneous tissue; and the skin being the seat of sensibility, and liable to great inflammatory action, the symptoms are relieved by a proportionate local effusion which general depletion does not facilitate

in this disease, but induces a state of debility, which either terminates fatally, or is succeeded by protracted convalescence; therefore I cannot think that Mr-Turner's practice is one that can be advantageously allowed. "My horse," says he, "is on fire, and I must endeavour to extinguish the flames so effectually and as quickly as I can. I will have recourse to bloodletting, as the most ready means I have of extinguishing the fire." But are there no diseases but these of an inflammatory kind? Are there not also stages of inflammatory disease in which depletion may prove injurious? Must every ailment be treated on the Sangrado system? There are diseases which are not essentially of an inflammatory character. This year has avowedly afforded more instances than any before known of alimeants of typhoid nature, and those of a low type, and formerly recognised under the term synochus. Even pneumonia has assumed this character. I have been informed that, some years ago, there were many cases of undoubted pneumonia in a large county town. They were treated in the usual manner, and almost every patient died. The medical men became wise by experience: they abstained from depletives; they made use of stimulants, and the mortality ceased. The disease, from its effects and from the nature of its treatment, was named pneumonia typhoides. They applied blisters to the chest, as we have. Bled they could not, as we cannot or should not. They had recourse to vesications, and to tonics; and they found the disease, as we do, a tolerably manageable one. If such things have occurred from some peculiar state of atmospheric influence, it is worthy of inquiry and of trial, whether we too may not succeed without depletive measures. In a case where there was a great degree of irritative fever, where the pulse was hard and full, and there was evidently acute inflammation in the skin of the hind legs, he thought that he was justified in bleeding: he bled—he bled to five quarts: and he repeated the bleeding. On the third day came on the serous effusion, and, with it, the sinking of every vital power; and, on the fourth day, the horse died. Had he endeavoured to relieve the state of the skin by other means, the patient might have been saved. In the next case of a similar character, he wrote in his note-book, "bleeding doubtful;" and he did not bleed. On the following day came on the same kind of collapse: he immediately had recourse, as in the former instance, to stimulants, and the horse, not having been debilitated by loss of blood, was saved.

I understand that a gentleman, when I was not present on the last evening, after doing me the honour to compliment me on my supposed veterinary acquirements—and a compliment from him I esteem an honour—expressed some surprise at my aversion to laxatives in this disease. I must confess, and to him I will confess it without reserve, that we differ in toto on this point. In this fever, in some cases, even on its first or second day, the fæces are voided in the state of scybale, and coated with mucus, as in fevers ushered in by rigour. This is erythema, a condition of the mucous membrane which establishes the true nature of this disease and its erysipelatous character. Two or three gentlemen, this evening, have stated cases of spontaneous purging in this disease. If practitioners will wait patiently, even in the condition of the feculent matter which I have described, they will have the fæces pultaceous all in good time, and even purging will spontaneously take place. It is the hastening or the aggravating of this that causes the fatal cases of super-purgation of which we have heard. Four days ago I saw a case

in which there had been sloughing in the heel—the slough had been thrown off some days before. Inflammation returned; it spread over the leg; it produced dreadful constitutional disturbance; the eyes were inflamed; there was the beautiful ring of serum beneath the conjunctiva, upon and around the edge of the cornea. There had been prostration of strength from the very commencement. Forty-eight hours after this came on profuse purging. The pulse was peculiarly soft; it was soft and vacillating; it could scarcely be felt at the jaw or the arm, and could be counted only at the side. If you pressed on it too much, you stopped it quite: if you pressed too lightly, you could not feel it at all. Now what would have become of this horse if a purgative had been administered, or if he had been bled?

There are cases in which, at the commencement at least, the pulse is distinct. The horse may here, perhaps, be bled with impunity—but no more; with no possible benefit, and the cure is protracted. If there is not the peculiar character of pulse that has been described, you might bleed without mischief, were it not for the circumstance of spontaneous purging so often taking place. I hold it in the highest degree reprehensible to give laxative medicine in any stage of this disease.

Other conditions of the body have been referred to as existing, occasionally at least, in this disease; but we are wandering from the true point in question, when we pay much attention to them. You, sir, have referred to a case which we have as the sequel of many diseases, namely, Purpura Hæmorrhagica, in which there is a tendency to hemorrhage in almost every external and internal part; in which every minute vessel, and almost every organ, is replete with blood. This disease, or this consequence of disease, has been more than usually prevalent during almost the whole of the present year.

Another case, that we should not confound with influenza, is the peculiar bronchial affection, which has been so frequent during the last six or eight weeks. It is accompanied by fever of a low type, but not one and the same with influenza.

Mr. Field related a case of influenza that had some time ago (in June) occurred to him. He had fired a horse. Three days afterwards erysipelas came on—he described the characters of it, agreeing with the usual external appearance of that disease. It then extended inwardly—croup came on—the horse was threatened with suffocation, and he opened the windpipe. This horse was bled when the disorder was at its height—doubtfully bled—bled three times, but not the slightest remission of the symptoms was obtained, until the trachea was opened, and then the animal rallied all at once. He did not know that he could properly speak of this bronchial affection as pure inflammation: it had too much of a typhoid character. So influenza, do whatever you will, succeeds to previous disease: but we must not class under the term influenza all the diseases to which the animal is liable, yet they are predisposed to be affected by an unknown atmospheric agency, and influenza supervenes.

I hinted that there was a peculiar condition of coma in some cases of influenza. He would relate one. If, said Mr. Field, it had been at any other season, or had been the first case of the kind I had seen, I should have adopted some active treatment. It was a heavy cart-horse. These horses having a great quantity of cellular membrane, are prone to this disease, and suffer much from it, and soon sink under its debilitating influence. All four legs were suddenly affected: the disease was confined to the skin, but of an acute character, and the slightest motion gave in-

tense pain, and the four legs became so many immoveable supporters. I differ therefore from the gentleman to whom I have before alluded, and who looks for the inability to move to the deep-seated fasciæ of the muscles: it is quite sufficient that the skin shall be highly inflamed in order to account for all loss of motion. Here was most extensive swelling of the extremities—the skin painful, tense—the pulse 108—the eyelids closed—coma—stertorous breathing. It was a case threatening enough. An important organ was involved in great disease, and a fatal termination seemed to be not far distant. But the pulse had the peculiar vacillating feeling to which I have again alluded—and it was difficult or impossible to count it, except at the thorax. The horse was purging profusely from some medicine that had been administered. What did I, what could I do on the principles that I have professed? I ordered cold lotions to the head, and warm fomentations to the extremities, and I gave opium. On the next morning the purging lessened—then the swelling of the legs diminished; and in forty-eight hours there was a change from coma to comparative health. Here was a case which would, in the opinion of many, have justified bleeding; but if I had bled, I should have lost my patient. If in this disease, we, and to a very great extent, leave the case to nature, it will generally turn out well; but if we act promptly and vigorously as it is sometimes called, we shall only embarrass nature in her proceedings, and induce that collapse from which our patient will not recover.

MR. AINSLIE.—We have heard of the great success that has attended the most opposite plans of treatment. I can only inform you, from personal observation, that the number of dead horses at the knackers' yards in London increased considerably while the influenza prevailed, and that the price of a worn-out or dead horse was much lessened in consequence of the large supply.

In the autumn of 1834, I had an opportunity of seeing a great number of horses affected with influenza, presenting the same, or nearly the same, symptoms which it now does; and many of the cases were considerably aggravated by the hard work to which the animal had been subjected, and to his travelling ten or twelve miles after the attack had commenced. The treatment pursued was the abstraction of blood, according to the state of the pulse, and the administration of small doses of Barbadoes aloes. The sound horses were soon restored to their work again, but some of those with only half a lung, the other half being either emphysematous or hepaticized, died; and on examination, the mucous membrane of the air-passages was of a grass green colour, and the air-cells filled with grey pus. In some cases the kidneys were enlarged and softened; in other instances lesions of the brain were found, and the symptoms before death were coma, stertorous breathing, and, in one patient, paralysis of the extremities.

At a farm situated eight miles from Edinburgh, some cases occurred. The first, a saddle horse, appeared to be very bad, but was not bled: he had a fever ball morning and evening, with mild but nutritious diet, and he was well in a few days. The second was bled to six quarts, and had three drachms of aloes. Symptoms of pleurisy came on, and the animal died on the tenth day from the first attack: the pericardium and thorax contained a large quantity of pus and serum. Three others were affected; one was bled: they had fever medicine, but no aloes, and they were at work in six days.

I have seen several cases in London. The treatment I have adopted has been to take blood, if the breathing was much affected; to give fever medi-

cine without the aloes, and to allow the horse as much tepid water or thin gruel as he would drink. I have seen one drink from three to four pailfuls in twelve hours: I have obtained by it a diaphoretic, a diuretic, and a laxative action, and my patient's speedy recovery, without the system being much disturbed.

ESTABLISHMENT OF A NEW MARKET AT CRICKLADE, WILTS.

The following resolutions were unanimously passed at a numerous and highly respectable meeting of the land-owners, graziers, farmers, and others of the town of Cricklade and neighbourhood, held at the White Hart Inn, on Saturday, the 21st ult., for the purpose of taking into consideration the best means to be adopted for establishing a Monthly Great Cattle Market and Corn Market at Cricklade, Thomas Taylor, Esq., in the chair:—

1st, That, in the opinion of this meeting, the establishment of a Monthly Great Cattle and Corn Market within the town of Cricklade, would, from its local situation, and the great advantages it possesses by reason of its extensive grazing and dairy district, be highly beneficial to the agriculturists in the neighbourhood, and tend greatly to promote their interests in general, as well as afford material accommodation to dealers from all quarters.

2nd.—That the establishment of such a market be forthwith attempted, and every endeavour used for the attainment of so desirable an object. That as the third Tuesday in the month appears to be the most suitable and proper, such day be adopted as the day for holding such Market, and that the first Market be held on the third Tuesday in the next month, viz., the 21st day of February next; and that the market which would be held in the months of March, April, August, and October, be denominated Fairs.

3rd.—That a subscription be entered into for the purpose of defraying the expences attending the establishment and support of the markets; and that immediate application be made to the Landowners and others, interested in the success of the undertaking, for their support by subscription and otherwise.

4th.—That a proper handbill, announcing the fixture of the market-days, enumerating the advantages accruing, and urging the attendance and support of farmers, graziers, butchers, and dealers in general, be forthwith prepared, printed, and extensively circulated; and that the resolutions of this meeting be inserted in some of the papers of this and adjoining counties.

5th.—That a committee of the under named gentlemen (with power to add to their numbers) be appointed for the purpose of carrying the foregoing resolutions into effect, and to take such other steps as in their judgment will be calculated to ensure the convenience, and meet the wishes of the farmers, graziers, and dealers, and conduce to the success of the market, and that five be empowered to act:—viz., Thomas Taylor, Esq., John Archer, Jun. Esq., Mr. George Akeman, Mr. John Ruck, Mr. James Tyler, Mr. Thos. Norris, Mr. Wm. Poulton, Mr. Chas. Wells, Mr. J. B. Jordan, Mr. G. F. Coleman, Mr. Wm. Haines, Mr. J. Packer, Mr. J. P. Fawkes, and Mr. Richard Stratton.

6th.—That Thos. Taylor, Esq., be appointed Treasurer.

7th.—That Mr. Lovett, Solicitor, be requested to act as Secretary to the committee.

8th.—That the cordial thanks of this meeting be given to Thos. Taylor, Esq., for his able and impartial conduct in the chair.

POOR-LAW AMENDMENT ACT.

STRAND UNION AUDIT.

The second quarterly audit of the accounts of the Strand Union took place at the board-room in Carey-street, before James Hales Mitchiner, Esq., on Thursday and Friday last.

The auditor entered upon the examination of the accounts of the board of guardians, upon which he was engaged until past nine o'clock. He resumed his labours on the following morning, and completed the same about eight o'clock on Friday evening. It is due to that gentleman to state that he bestowed great care and pains in the performance of his important duty.

Upon comparison of the quarterly abstract of the expenses of the union, which was publicly exhibited, with the abstract of the previous quarter, the following result appeared:—

	Michaelmas Quarter	Christmas Quarter.	Diminution.
In Maintenance . . .	1,147 10 10	977 11 5	169 19 5
Out Relief	320 17 8	291 18 5½	28 19 2½
Establishment	1,890 9 7	877 3 5	1,013 6 2
Charges	88 14 6	82 13 8	6 0 10
Collector's Poundage and other Expenses			
Loans to Paupers . . .	3,447 12 7	2,229 6 11½	1,218 5 7½
	15 0	4 5 6	
Total Expenditure	3,448 7 7	2,233 12 5½	

It is satisfactory to observe that there is a diminution under every branch of expenditure, with the exception of a small augmentation in the relief advanced by way of loan.

The total diminution exceeds £1,200, but it is right to state that the expenditure of the former quarter was much increased by repairs and other expenses, unavoidable in making the necessary preparations for the carrying out the rules and orders of the poor law commissioners in this populous metropolitan union: and it is right also to state, that a share of these expenses extended over a portion of the preceding quarter. It is, however, a remarkable and striking fact, that, notwithstanding an increase in the number of pauper lunatics, the cost of whom is included in out-relief, and notwithstanding the season of the year, and the late inclemency of the weather, there is a diminution in the amount of out-relief, and this fact appears more remarkable when we find that there is a considerable diminution in the cost for the in-door poor likewise: and we have much pleasure in accompanying this fact with our conviction that the board of guardians of this union have been actuated throughout with a desire to put the rules of the commissioners into force with as much kindness and humanity to the aged and deserving poor as possible.

The following is a statement of the quarter's expenditure, compared with the former expenditure under the old system, taken upon an average of that expenditure for three years before the formation of the union, as settled and declared by the poor-law commissioners:—

	Average Quarterly Expenditure before the Formation of the Union.	Total Expenditure under the Union for the past Quarter.	Diminution.
St. Clement Danes . . .	2,312 10 0	1,309 2 3	1,003 7 9
St. Paul, Covent-garden	978 5 9	481 11 10	496 13 2
St. Mary-le-Strand . . .	388 5 0	179 3 9½	209 1 2½
Liberty of the Rolls . . .	530 10 0	224 17 8½	305 12 3½
Precinct of the Savoy . .	69 5 0	38 16 10½	30 8 1½
Total	4,278 15 0	2,233 12 5½	2,045 2 6½

Thus there appears a total quarterly diminution of

expenditure of upwards of £2,000, or nearly 100 per cent.—that too, in the most trying quarter of the year, and within a few months after the formation of the union. It is true, as regards the parish of St. Paul, Covent-garden, some of the parishioners contend that their average is fixed at too high a sum by the commissioners. But supposing the commissioners to have actually been in error, and that, instead of the average expenditure of that parish for the three years ending Lady-day, 1835, having been, as the commissioners have declared it to have been, £3,913, let the £913 be deducted, and reduce the amount to £3,000, which is much below what is claimed as the correct amount, the comparative expenditure will then stand thus:—

ST. PAUL, COVENT-GARDEN.	
Average quarterly expenditure before the union	£750 0 0
Expenditure under the union	481 11 10
Saving	268 8 2

Thus it is quite obvious, that even the economical and well-managed parish of St. Paul, Covent-garden, in which many of the provisions of the Poor-law Amendment Act had been anticipated, and in which it was thought, with apparent justice, that the expenditure had been reduced to the lowest ebb, derives a considerable saving from the union. We observe that this parish has a balance in its favour, at the termination of the quarter, of 304l 18s 4d.

The diminution in the calls by the board of guardians upon the several parishes, shows likewise a gradual and progressive diminution. In the first quarter the calls were at the rate of 25 per cent., and the accounts were closed with a balance in hand of 341l 8s 7d. In the second quarter the calls were reduced to 15 per cent., and the accounts are closed with a balance in hand of 1,050l 9s 11d; and we understand that the orders upon the parishes for the present quarter will not exceed 10 per cent.

It is to be regretted that the parish of St. Clement Danes, which, it will be seen, constitutes the larger portion of the union, has not derived the advantage to which it was entitled from this state of things, and this from the overseers' unnecessarily calling upon the vestry to make a rate before the accounts of the union had been made up or audited. It now appears that, after the payment of all the claims on the poor-rate in last quarter, there was a balance in the hands of the treasurers of 421l in favour of St. Clement Danes, and in addition to this, the collector's books showed a list of rates uncollected amounting to 999l, making a total, if these rates were collected, of 1,420l, which, according to the expenditure of the last quarter, would more than liquidate the expenses of the present quarter.

It may be proper to state a fact which the abstract showed, that in three workhouses of the union, containing between five and six hundred inmates, the majority of whom are aged and infirm, there have been but fifteen deaths during the quarter. And another fact struck us as very remarkable, that in this union, comprising five parishes, containing a population of nearly 30,000 souls, there has been only one illegitimate child born in the workhouse during the quarter.

The accounts had been publicly exhibited in the board room for several days previous to the audit, for the inspection of the owners of property and rate-payers, several of whom attended and took copious extracts; and it is satisfactory to state that not a single objection was offered to any items in the accounts, all of which were duly passed and allowed by the auditor.

It is due to the guardians to state what we know to be true, that they are unremitting in their attention to their duties, and that not only are they engaged for several hours at the weekly meetings of the board, but that much of the intervening time is occupied in visiting the workhouses (three in number) and attending committees.

During the past week the influenza has made its appearance very generally among the in-door poor, in consequence of which, by the advice of the medical officers, all labour has been suspended, the allowance of

firming increased, and every care and attention, both as regards proper diet and medical treatment, bestowed, and we are happy to state that the disorder is already decidedly on the decline.

Mr. Mitchiner completed his audit after two days' laborious and incessant application, and expressed his satisfaction at the state in which he found the accounts. He proceeded to Brentford on Saturday to audit the accounts of that union, and will enter upon the accounts of the Holborn Union in the course of the week. The parish of St. Pancras has not been visited by him this quarter, any further attempt to audit the accounts of that extensive parish being deferred until the question now pending between the directors of the poor and the poor-law commissioners is finally settled. This important decision is expected to be pronounced by the King's Bench to-morrow.

THE BLACK SEA.

The little German work on the Russian ports of the Black Sea, the Sea of Asoph, and the Danube, has been translated by M. Schloss, who has improved upon the original by adding a map and an appendix containing an abstract of the latest official accounts of Russian commerce. Much of the information given respecting the ports of the Black Sea, the geographical as well as the mercantile, will be found at once novel and important. The translation is correct and well executed throughout. The following passages are extracted from the account given of the commerce of Odessa :

" ARTICLES OF EXPORTATION.

" **GRAIN.**—Odessa is the grand magazine for the grain (principally wheat) of the provinces Kherson, Podolia, Volhynia, the Ukraine, and Jekaterinoslaw. The principal markets to which it is sent hence are Constantinople, Syra, Zante, Leghorn, Genoa, and Marseilles.*

" **TALLOW.**—The principal manufactories are in the neighbourhood of Odessa, Nikolaya, Kischenew, and other places of the province Bessarabia. The greatest quantity is exported to England, a few cargoes to Constantinople and Trieste.

" **LEATHER.**—Is sent to Leghorn, Trieste, Marseilles, and England; also to Austria, by land-carriage, through Brodi.

" **WOOL.**—This is, at present, a very important article, and promises to be a still more so. The coarser kinds are sent to Trieste, Leghorn, and Marseilles. In the Crimea and in Bessarabia are several excellent breeds of Merino sheep. There wool was formerly bought by the English, but is now sent to Moscow, where it is used for the manufacture of cloth, a branch of trade which has lately increased in that city.

" **WAX** from Ukraine, and Iron, are at present no great articles of commerce. They are sent to the Italian ports, and to Marseilles.

" **ROPES, SALT BUTTER, CAVIARE, AND TALLOW CANDLES.**—These articles are principally exported to Constantinople and Smyrna.

" **LINSEED.**—The exportation of this article commenced in 1830. It is sent, for the most part, to England and Holland. (After the expression of the oil, the substance which remains is used for the feeding of cattle.)

" ARTICLES OF IMPORTATION.

" The quantity of articles imported does not generally amount to more than half of those exported. The cause

of this lies partly in the system of prohibiting duties, and partly in the limited consumption of foreign goods by the middle and lower classes of the population in the southern provinces.

" The articles of importation are colonial products and drugs, wines, olive oil, rum, dried fruits, such as almonds, dates, figs, grapes, orange and lemon peel, saffron, tobacco, gum, lead, tin, sulphur, incense, sponge, pearls, coral, silk, corks, and, finally, manufactured goods, which usually come by way of Brodi. The Colonial products are imported from England, Genoa, Leghorn, Malta, and Trieste. The ships are chiefly English, Maltese, Austrian, Sardinian, and Russian.

" England exports to Odessa colonial products, refined sugar, porter, tin, Madeira and port wines, coals, woollen and cotton goods.

" France exports wines in casks and bottles, Dutch cheese, colonial products, corks, fine oil, aromatic vinegar, sweet almonds, woollen, cotton, and silk goods.

" Sardinia, colonial products, olive oil, Parmesan cheese, corks, and lead.

" Tuscany, colonial products, olive oil, marble, alabaster, and straw hats.

" Malta, colonial products, Spanish lead, fresh oranges and lemons.

" The two Sicilies, olive oil, citric acid, orange and lemon peel, sweet and bitter almonds, manna, sulphur, Marsala wine, fresh oranges and lemons.

" The Archipelago, Smyrna, and Constantinople, the red wine of the Islands, Cyprus wine, common olive oil, bath sponges, dried fruits from Smyrna, cotton, silk from Brussa, tobacco, dates, gum, and incense.

" Vessels arrived, 855; left, 945.

" There are always a great number of coasting-vessels in this harbour. On the 31st of December, 1829, there were 121 barks lying in it; of these small vessels, 617 entered this port during the year 1830.

" The value of the exports and imports of Odessa during the year 1830 is as follows:—

" 1. Value of goods arrived by land-carriage by way of Brodi—1,872,675 paper roubles.

" 2. Value of goods arrived by sea—15,357,464 paper roubles.

" On these goods, the duty paid was to the amount of 1,217,825 roubles; the chief of them were as follows:—

Paper Roubles.

"Articles of manufacture	1,919,686
"Money	3,564,641
"Wine	1,829,472
"Raw and manufactured silk . .	1,048,087
"Olive oil	728,198

" 3. Value of goods exported from Odessa—27,031,000 paper roubles. Duty, 516,268 roubles. Amongst these were—

Roubles.

"Corn, 1,215,738 tchetwert. . . .	20,662,886
"Tallow, 245,038 pud.	2,196,832

" 4. Value of goods exported from Odessa into Georgia by sea—121,683 paper roubles.

" In the year 1835, 430 ships arrived at this port; the imports were to the value of 23,000,000 roubles, and the exports to 27,000,000.

" In the year 1832 the number of ships were 636; the imports were to the amount of 14,900,000 paper roubles; the exports 28,000,000.†

" The quantity of corn annually exported, on an average, from Odessa, has generally amounted from 800,000 to 1,000,000 tchet. The trade through Brodi is to the amount of 2,500,000 roubles annually; it supplies

" † In the year 1835, 378,000 tchet. of wheat, to the value of 6,673,091 roubles were exported principally to Turkey, Greece, the Adriatic, Leghorn, Genoa, and a small quantity to Marseilles. Rye is chiefly exported to the Adriatic, and Barley to Turkey; these, with 7,464 sacks of wheat Flour, amount to 29,946 sacks, and arc of the value of 392,985 roubles."

* " In the year 1830, 382 Sardinian ships brought 1,110,000 sacks of corn from the Black Sea to Genoa; in 1832, 227 vessels (of which 94 were Austrian, 65 Russian, 33 Grecian, and 30 English), carried 1,073,000 sacks to Leghorn.

the Russian provinces beyond the Caucasus. From Odessa to Moscow goods are generally from 30 to 35 days on the road. The expense of carriage is from 1 rouble 50 copecs, to 3 roubles per 40 lb., according to the time of the year.

* From 1803 to 1829 there were 115 bankruptcies in Odessa."

THE NEW POOR LAW.

(FROM THE MARK LANE EXPRESS.)

The persons who array themselves in hostility to the New Poor Law may be divided into three classes. First, those who from their station in society, and from the advantages of education possess sufficient information upon the subject to enable them to discriminate upon its operation, yet, from personal motives embrace every opportunity of denouncing its provisions and maligning those whose duty it is to carry the law into effect. Secondly, those who, from praiseworthy but mistaken feelings of humanity, would enforce a supply of necessities indiscriminately to all who are in want; and Thirdly, those who, from utter ignorance of the mode in which it has grown up, and the consequences to which it leads, not only advocate the *right* of those who are in need to participate in the goods of others, but also insist upon it as the duty of the government to provide for those who do not possess the means of procuring subsistence. To the first of these classes it is useless to offer any observations. Actuated by wicked motives, they, in common with other kindred evil spirits can only be restrained by the strong arm of the law. The second class, although more numerous than the first, is comparatively harmless, and not calculated to throw any serious impediment in the way of the improved system. Both these classes having their opinions founded in prejudice, will gradually decrease, as the beneficial operation of the new law shall develop itself. It is from the third class, by far the most numerous, and in consequence of their want of information, the most difficult to convince, that the most serious obstacles to the ready and cheerful adoption of the new system is experienced. To the persons in this class, therefore, embracing a considerable proportion of those who are themselves in a situation to anticipate the necessity of requiring parochial relief, we are most anxious that every information should be afforded. With some few exceptions we do not expect that the sentiments of the labourers themselves in respect to the absolute *right* to relief will be much altered by argument, oral or written. Unfortunately such has been the neglect of the government in that most important matter, the education of the people, that nine-tenths of the labouring and operative classes are unable to read. To those who are capable of deriving information from books, and desire to obtain sound information upon the effect of "Poor Laws" in general, we recommend the perusal of a small *brochure*, published in a cheap form, and entitled, "Fallacies on Poor Laws." As regards the working of the New Poor Law, in a pamphlet entitled, "An Article on the Principles and Progress of

the New Poor Law Amendment Act, and also on the nature of the Central Control and Improved Local Administration," the leading features of the old and new systems will be found so clearly pointed out, and a comparison so highly favourable to the latter instituted as to leave no doubt upon any mind open to conviction, that the effect, when completely carried out, will be equally beneficial to the working class as to the rate-payers. One of the "Fallacies" noticed in the first-named pamphlet, and which has been repeatedly advanced is,—“That government should employ able-bodied labourers on public works as a preventive of pauperism.” It is admitted that such a course would be beneficial to a *very limited* extent. Namely, “the making of roads and draining of bogs, when works of this kind are obviously required. The reason why government should undertake them is, that although they would greatly improve the country, and cause it ultimately to be much better cultivated than at present, the immediate return to capital would not be sufficient to induce any private individuals to embark in the enterprise.”

In respect to the direct interference of government, the following observations are made.

“The people of this country say, government must do this and that; but they never say, *we*, who constitute the only strength of government, must do this and that. Hence it does not strike the advocates of the line of policy we are now discussing, that, before government can expend money in wages, government must first take that money from those by whom it is already expended. Government cannot create capital to be employed upon public works. The capital for such a purpose must be raised by taxation. Suppose the amount raised only to a million per annum; what then is the state of the case? Farmers, landowners, and manufacturers are deprived of the power of employing labour to the extent conferred by the possession of one million per annum, and that power is given to government. One class of labourers is deprived of employment in order that another class may be employed on public works. Now, whether it is better that the one million per annum should remain in the hands of farmers, landowners, and manufacturers, by whom it will be profitably employed in production, or placed in the hands of jobbing public functionaries, by whom the greater part is certain to be uselessly and wastefully administered”

The soundness of these remarks will, we apprehend, be admitted by every man of observation and experience. Upon another, and in the present unenlightened state of the minds of the poor, a more delicate subject “the right of the poor man to depend upon a parish for subsistence,” an appeal is made to the parties themselves, which is calculated to produce a sensible effect upon every man in whose bosom there yet remains a latent spark of that English feeling called independence.

“And what, if it be his right? What, if every shilling of the four millions saved by the Poor-Law Bill, were a property to which the title of the poor man was as good as that of freeholders to their estates? Let it pass. Are the people so fallen, and so destitute of leaders having in their veins the spirit which used to be considered characteristic of Englishmen, that there are none to tell them it is better to trust to the labour of their own hands for bread, and to their own providence for a provision for old age, than to the wealth wrung with difficulty from the reluctant grasp of its present possessors? Operatives of England, if any echo of our voice should reach you through these pages, spurn the degrading counsel of your present leaders. Be not tempted to look

with longing eyes upon the spoil of the Egyptians—not even though it should appear, as by a righteous retribution, ready to be delivered into your hands. Touch it not; it is the accursed thing. The gold that you have not earned will eat as a canker into your soul. The sight of your pauperized old age, though faring not as Lazarus, but as Dives, ‘sumptuously every day,’ will wither up the energies of your children. And listen now to the libel pronounced upon you by the very persons claiming to be your only real friends. They insist upon your right to the aid of public charity (and a poor-rate is but a part of the machinery of compulsory almsgiving) on one of two grounds: either that you are the slaves of intemperance and improvidence, and if so, you deserve to suffer; or that you are frequently plunged into distress through the pressure of unavoidable misfortunes. Let us take the latter case. Your leaders then tell the world that, although there are among you trade-societies capable of supporting thousands and tens of thousands out of work for months together during a strike, you are not capable of forming benefit-societies for sickness and old age; that you have no corner at your fire-side for a widowed mother—no half-loaf to divide with a broken-down shopmate—no shilling saved ready as a subscription for his coffin—no sympathy for his orphan child; to save him from becoming a thief you would not teach him your own trade. You think the workhouse schoolmaster, chosen from among the paupers, is good enough for him.

And is it indeed so? Then away for ever with the delusion that you are fitted to enjoy the right of universal suffrage, or that for you it is necessary that the elective franchise of the Reform Bill should be extended. Be paupers if you will, but clamour not for the rights of freedom. Liberty turns with contempt from those who eat the bread of dependence with delight, and hug the chains of their disgraceful bondage.”

The rapid progress which has been made in forming unions, clearly shows that opposition on the part of the rate payers is confined to a few isolated cases, in which the motives of the opposing parties are sufficiently apparent. A union of all the parishes in the City of London has just been completed, and in less than three months the whole country will be formed into unions. The new system will then be in general operation. The vast saving in expenditure, an instance of which may be seen in the report of the audit of the Strand Union in another part of this paper, will insure its favourable reception with the rate payers. The more important business of rendering it palatable to the poor themselves, although a work of longer time is perfectly certain. The New Poor Law is unquestionably a measure that will “call into action the moral energies of the people,” and which can in no way be better awakened than by addressing them in language so perspicuous and replete with good sense as that which is contained in the extract last quoted from ‘The Fallacies on Poor Laws.’

A letter from Medina County, Ohio, dated Nov. 17, gives the following list of prices:—“A good pair of horses, 125 dol.; a pair of oxen, 50 dol. to 80 dol.; a fat sheep, 3 dol.; flour, per barrel of 89 lbs, 6 dol.; wheat, per bushel (Winchester), 1 dol. to 1½ dol.; oats, ditto, 28 cents; tallow, per lb, 10 cents; butter, ditto, 18 cents; beef, ditto, not very good, 3 to 5 cents; a good low-wheeled waggon, 65 dol.; a good plough, 11 dol.; a pane of glass, eight inches by ten, 10 cents. Crockery is very dear. It is imported from England, and pays a duty of 28 per cent. A jug that will hardly hold a Scots pint cost 30 cents.”

TEMPERANCE SOCIETIES.

The advancement of our species in intellectual enjoyment, is the main object of philosophy and science. It is only by a larger development of the faculties, that we preserve our prerogative and superiority in animal creation. The powers within us are sufficient to promote the end, provided they are not weakened and eventually destroyed by artificial means. The most fatal resource for the excitement of the nervous system, is the use of ardent spirits, and the misery, pauperism, and demoralization of a country is more dependent on the use or abstinence from this deleterious beverage, than from any other influence, moral or political. It is true the advance of intellect within the few last years, has been most rapid, having with eagle's flight soared above ignorance and prejudice, but though endowed with the power of wing of the imperial bird, yet is its ascent too often impeded, its functions scathed, by the vivid lightning as it were, of ardent spirits. The friends of temperance in England, and particularly Scotland, have effected much good, but their associates in America have obtained a victory more deserving the bays of immortality, than those of the renowned heroes of old, as he that “conquers himself, has achieved more than Cæsar.” That the prosperity of every branch of industry and human enterprize must be beneficially promoted, by the exclusion of spirituous liquors from the consumption of those employed, becomes a moral certainty. Any illustration therefore, which verifies the principle, should be sought after and welcomed. The appeal which such facts make to the interest, not less to the moral sense of the community, is irresistible. It is therefore with pleasure we insert an address from the “Temperance Society at Albany, America,” merely observing that the following table will exhibit the diminution of spirits from the commencement of the Society, at the same time remarking, that the consumption of coffee has augmented in more than a commensurate degree.

Account of ardent spirits imported into the United States.

1824.	1825.	1826.	1827.
Galls.	Galls.	Galls.	Galls.
5,385,047	4,114,046	3,322,380	3,465,302
1828.	1829.	1830.	
Galls.	Galls.	Galls.	
4,445,692	2,462,308	1,095,400	

Circular to the Proprietors or Superintendents of Manufacturing establishments in the United States and the British Provinces.

GENTLEMEN.—There are two classes of facts which ought to come before the eye of the whole world.—The statistics of intemperance and of abstinence—though thus far but partially presented, have produced surprising revolutions and improvements in public sentiment and practice. The facts already developed have been astounding; while others of immense interest and importance, remain yet to be collected and exhibited. In prosecuting this great enterprize we have called upon gentlemen occupying various stations of responsibility and influence, and enjoying ample opportunities of observation, among all the different classes of community.—Their answers present two glowing pictures. In the one we behold individual degradation and ruin, social distress and public loss. We behold the monster revelling in the miseries of the human family. Under his paralyzing touch, commerce declines, and the sturdy arm of industry withers; health, intellect, virtue, hope, happiness, life, with its fondest endearments, its most tender attachments; in a word, all that is sacred, and lovely, and valuable to man as a mortal or an immortal, lie bleeding beneath the horrid smile of this bloated demon. This, we have found is

no sketch of fancy. Sober facts, rigid statistics, verify it with too horrible authenticity. But the other picture is as bright and cheering, as this is painful. And it carries constantly with it the delightful reflection, that the half cannot be told.—The streams of this peaceful, healthful river have gone coursing around the scorched and blighted plants of many a desolate hearth. And oh, how many drooping plants, the sweetest and best of earth's production, have begun to revive. We speak, gentlemen, without exaggeration; tens of millions of dollars have been saved to this nation, by the Temperance Reform. The palsied arm has been touched as by a miraculous power. The pauper who was bringing his family to burden the town, is now the respectable, thriving mechanic; the family that used to eat with trembling anxiety, the last stale crust, lest it should prove the last indeed, are now living in the well furnished house, with the bounteously supplied table, surrounded by the well clothed, well educated group of children. Disease is attacking the human frame with diminished power. Pauperism is actually known now in some towns, only in the annals of former days. Unfriendly litigation is decreasing. The class of profitless consumers and idlers, the drones of our civil hive is diminishing; while the class of producers is increasing. But it is impossible for us to convey, by general statements, without a view of the facts which justify them, any adequate conception of the animating results which have actually followed past efforts. And these efforts, we repeat, have been, the collecting and publishing facts. We desire to gather the remaining facts. There is yet a vast number, scattered in individual or local experience and observation. The best interests of an oppressed world demand that they be concentrated, like the sun's rays, with local power. We acknowledge that our hopes are sanguine. Give us these facts. They will furnish unquestionable evidence to the understanding of the truth of our fundamental propositions. They urge a resistless appeal to all the better feelings, the noble ingenuous sentiments of the human heart. These appeals must prevail; and the good sense, the conscience and the humanity of our citizens will yet triumph over the sordid propensities of avarice and appetite.

The call has been made upon physicians for facts. With a magnanimity the most creditable, estimating the public good far more than professional interests; more than five thousand of them in Great Britain and America, have confirmed this great temperance proposition—"Alcohol used as a beverage, by persons in health, is never useful, but always hurtful."

The commanders of vessels have responded to our appeal distinctly and impressively. They declare that the majority of those awful disasters at sea, in which so much property and so many human lives are destroyed, are directly owing to the intoxication of seamen. And from the combined motives of interest and philanthropy, they have extensively signed our pledge.

More than four thousand of the clergy in this country alone, have publicly confirmed our principles by their testimony, and given their names to our list of pledged supporters.

The insurance companies, not as reformers, but as business men, looking for pecuniary profit, have taken a stand which ought to attract the attention of thinking men. Some of them have long been in the habit of returning five per cent of the premium on vessels which made their voyage without using any alcoholic beverage. What more practical and powerful testimony could these sagacious, skilful merchants give concerning the value of total abstinence to commerce? And facts have shown that they did not miscalculate. The value of the stocks and the dividends of those companies, has greatly increased, for the risk is actually diminishing much more than five per cent. by this cause. Twelve hundred ships are now sailing under American colors, in which no alcohol is drunk. But the beneficial effects have been more than pecuniary. It has done more than any one other cause to command for our commercial navy the respect of the world. See the flattering and generous testimony of the British nation,

During the last session of Parliament, an able committee was appointed to inquire into the "Cause of Shipwrecks in the British Merchant service."—Their testimony is as honourable to their candour and liberality as it is gratifying to our patriotic feelings. It is a testimony which we should think, would make every lover of America a warm and efficient friend of the Temperance Reformation.

"The committee cannot conclude its labours without calling attention to the fact, that the ships of the United States of America, frequenting the ports of England, are stated by several witnesses to be superior to those of a similar class amongst the ships of Great Britain, the commanders and officers being generally considered to be more competent as seamen and navigators, and more uniformly persons of education than the commanders and officers of British ships of a similar size and class trading from England and America: while the seamen of the United States are considered to be more carefully selected, and to be more efficient; that American ships sailing from Liverpool to New York have a preference over English vessels sailing to the same port, both as to freight and to rate of insurance; and higher wages being given, their whole equipment is maintained in a higher state of perfection, so that fewer losses occur; and as the American shipping have increased of late years in the proportion of 12 3-4 per annum, while the British shipping have increased, within the same period, only 1 1-2 per cent. per annum, the constantly increasing demand for seamen, by the increasing marine service of the whole world, the numbers cut off by shipwreck, and the temptations offered by the superior wages of American vessels, cause a large number of British seamen every year to leave the services of their own country, and to embark in that of the United States; and these, comprising chiefly the most skilful and competent of our mariners, produce the double effect of improving the efficiency of the American crews, and, in the same ratio, diminishing the efficiency of the British merchant service."

The farmers have been called upon to aid in extinguishing the fires of the distillery and brewery, by withholding the coarse grains from these manufactories of paupers and criminals. They have nobly responded to the appeal. They have helped to close nearly one thousand distilleries in the State of New York alone. The farmers have found it better policy to feed their cattle with their grains and fruits, than to take them to the brewer or distiller. They have also extensively come to the conclusion, that it is as immoral to furnish the materials for making the destructive substance, as it is to make and vend it. The diminution which has thus been made in this most unprofitable and hurtful employment of the bounties of Providence is truly wonderful.

It appears, for instance, by the collector's returns on the Erie canal, last year, up to 3d October there were 285,288 bushels of barley received in Albany; up to the same period this year, only 72,663 bushels; showing a falling off of 214,280 bushels. We believe there has been a full crop of barley in the State, so that the inference is that the farmers are feeding it to their cattle instead of furnishing the brewery to some extent at least.

In New England, New York, Pennsylvania, and other states, the habit of feeding the cider mill with the fruits of the earth, is almost universally giving place to the more patriotic and politic custom of feeding those animals who, instead of poison, make a return of wholesome and nutritious food to man. The shameful and cruel practice of filling the farm-house cellar with the most besetting of all beverages, to drown the mind and quench the heart of a whole family during a long winter, is giving way to wiser and kinder expenditures of the same money in furnishing the library with the instructions of wisdom and piety.

We have called upon the merchant and the mechanic for the results of their observation and experience. The facts which they present are alike appalling on the one side, and heart cheering on the other. In a word, the whole business of making, importing, vending, using, and furnishing alcoholic beverages, is an unqualified

evil. It has furnished some of the darkest chapters in the record of human crime and wretchedness. The impolicy, injustice, and cruelty of this branch of manufactures and commerce, are standing before the public eye in bold relief.

We now wish to make an appeal to you. It is our belief, that should all the manufacturing establishments adopt the principles or practice of total abstinence, they would require no protecting duty. They could then compete with the world under great advantages. We have already ascertained enough to satisfy ourselves. We want the world to see; we want the manufacturers to see the combined testimony of the whole. We know manufactories, once flourishing, reduced to bankruptcy by the general use of intoxicating drinks. We know others whose success is astonishing under the total abstinence system. The advantage is not to one party in the establishment to the disadvantage of the other; but proprietors and workmen rejoice alike in its benign and profitable effects. Our object in this circular is to propose the following questions, to which, for the benefit of mankind, we respectfully request an answer as soon as it can conveniently be transmitted.

If you have not adopted any regulations on the use of intoxicating drinks in your establishment,

1. What are the practices of your workmen on this subject?
2. Have any deaths occurred among your hands, which can be traced to the use of intoxicating liquors?
3. How many days, or parts of days, in a year have they lost from the same cause?
4. Are there any contentions or difficulties between the workmen and superintendents, or among the workmen themselves?
5. Have you had any difficulty from the want of care in the workmen, such as losing tools, marring work, &c.?
6. What is the condition of your workmen's families in regard to comfortable clothing, food and fuel, education, neatness, kindness?
7. Do your unmarried men spend their leisure evenings in mental improvement, or in dissipation?
8. Are your workmen, or any of them, in debt to the establishment of the grocer, tailor, &c., at the end of the year?
9. Where ardent spirit alone has been abandoned, and beer, wine and cider substituted, has the change been much or any for the better? We wish particular information on this head.

If you have adopted any regulations on this subject,

1. What are those regulations, and when adopted?
 2. What has been the effect on the general appearance, cheerfulness, activity, care, temper and manners of the men?
 3. Do your mechanics appear to have more self-respect than they had before, or than others have, who use intoxicating drinks?
 4. Is their time more profitably employed?
 5. What is the condition of their families as to cleanliness, cheerfulness, attendance on religious services and education?
 6. Have your hands any surplus money at the end of the year, how much, what disposition do they make of it?
- If you have made a change, then you can contrast the present and former condition of your establishment. If you have always acted on this principle, you may contrast yours with some institution which acts on the old plan.
- State what you suppose to be the pecuniary gain from abandoning the old practice of using alcoholic beverages, and the better one of abandoning such use. In a word, we earnestly request you to state all the facts which you think calculated to enlighten the public mind, on the connexion between the prosperity of manufacturing establishments, and the use of intoxicating drinks. These facts the Executive Committee of the American Temperance Union intend to embody. We believe that the facts when fully obtained and presented to the world, will settle conclusively this important proposition, that every consideration of humanity, and of pecuniary interest to the employer and the employed,

calls for the immediate abandonment of intoxicating drinks.

We are, gentlemen, very respectfully, your obedient servants,

E. C. DELAVAN,
J. W. LEAVITT,
ISAAC COLLINS,
ISAAC S. LOYD,
JOHN TAPPAN,
CHRISTIAN KEENER,
JOHN T. NORTON,

Ex. Com. American Temp. Union.

Note.—Address for the present, Edward C. Delavan, Albany. Editors of papers throughout the Union are respectfully requested to give this circular one insertion.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR.—I should feel obliged if any of your correspondents would favour me "through the medium of your Journal," with answers to the following questions, upon Lucern and Rags.

When is the proper (or best) time to sow lucern, what is the usual quantity per acre, which is the *easiest* way of drilling it, by common corn drill, or is there a drill for the purpose, or is there any other plan; is it generally sown upon tilth, or may it be sown after tares or any other green crop; what is about the price of the seed, and where can it be procured; what is the best manure for it, farm yard dung or light compost, such as bone dust, oil dust, &c.? Where is the *cheapest* and best place to purchase rags, (either in London or within 15 miles of it on the Middlesex side,) for manure; is there any sort best for the purpose, what is the present price in town, what is the usual quantity put upon an acre, for what crops are they most suitable, will they last for more than one crop, are they put on the land as you purchase them, or is it necessary to do any thing to them first; are they considered as good as other light composts, supposing the same amount be expended (in cash) per acre, (for that is in my opinion the test, how to do the most good to the crops at the least cost)? Should you, Mr. Editor, be kind enough to favour me by inserting the above, you will oblige

Your Obedient Servant,

JEMS.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR.—In your paper of the 23d, I find an article upon the turnip fly, by a Mr. Thomas Askell, wherein he endeavours to tell us how to *drive the smother fly* (aphis) by means of a scuffer. Astonishing! It is most singular that of all the scuffers previously used, that none has frightened them before; it must be one of a more *ugly description than others*. If he had set an old woman under the hedge, that was speechless, I should think it would have frightened them as much. He is perfectly mistaken; they never were frightened. By scuffling the ground, it would earth up the plants, and the space between the rows would be lightened, and thereby give a stimulus to the growth of the plants; and so long as the plants can be kept healthy the fly will not attack them.

SAMUEL GILL.

South Normanton, Alfreton, Derbyshire.

BEET SUGAR IN MASSACHUSETTS.

It would appear from the following extract from a New York paper that the cultivation of the beet for making sugar is now to be pursued in earnest in Massachusetts. Mr. Aphorp (not Althorp) of Northampton, has raised at the rate of 40 tons of beets to the acre. The people of the place fell to calculating that 40 tons of beets would produce 5,400 pounds of sugar; and that 30 bushels of wheat, which was all that an acre of land could be expected to produce, would weigh but 1,800 pounds, so that the same land which would produce but one pound of wheat would produce three pounds of sugar. They took into calculation also the fact, that by the new method of chrysalizing the sirup in France, sugar is made in that country for three or four cents a pound. Several citizens of the place have therefore formed a company for the manufacture of beet sugar, and have engaged the services of Mr. Isnard, the French Vice-Consul at Boston, and the first person who extracted sugar from the beet-root. Mr. Isnard is to proceed immediately to France, as the agent of the company, and on his return next spring is to devote his whole time to giving directions and instructions respecting the manufacture. It is proposed that the shares of the company's stock be sold to cultivators, and the pay be taken in beets. We gather these facts from the *Hampshire Republican*. Mr. Isnard visited Northampton, and made a statement at a public meeting, of which the following is a summary:—The business of manufacturing sugar from the beet was commenced by himself, under Napoleon, in 1811. In the first experiments only 1½ lb. or 2 lb. of sugar were made from 100 lb of beet. The business is carried to such perfection now, that they obtain 7 lb. and even 8 lb. By chemical tests it is ascertained that the beet-root contains 10 per cent. of sugar. 70,000,000 lb. are now made annually in France. The cost of the sugar is 4½ to 5 cents, per lb., and they are confident they shall be able to make it at 2 and 2½ cents, per lb. He thinks it can be made in this country at from 5 to 6 cents. The price of beet in France is from 3 dol. to 3 dol. 50c. per ton. The pumice is considered worth more by the pound to fatten cattle than the beet. 30,000 lb. to 35,000 lb. of beet-root is considered in France an average crop to the acre. About 80 per cent. of the beet is juice, and about 20 per cent is pumice. An engine of 10 horse power will rasp about 15 tons of beet in 12 hours, which produce 1,800 lb. of sugar. The expense of manufacturing 50,000 lb. of sugar is 60 dol., exclusive of the raw material. Land in the district where the beet is cultivated in France rents for 100 francs, while land equally good in other districts rents for only 15 francs. From good land 2 lb. of sugar to 1 lb. of wheat can be obtained.

ON THE RECENT REGULATIONS RELATIVE TO TWO-WHEEL CARRIAGES.

There is a measure recently put in force relative to carriages with two wheels of that description, which is commonly used by farmers and respectable people residing in the country, that formerly came under the denomination of "taxed-carts"—which ought not to be passed by without observation. No duty has been charged upon this description of carriage for some years past, provided they were constructed in conformity with certain prescribed regulations: very recently, however, the conditions here alluded to have been modified,—particularly those which related to metallic springs and stuffing in the back of the carriage;—and the vehicle as it may now be used is sufficiently easy for the purpose of travelling, and sufficiently respectable to not disturb the harmony which ought to exist (to use the artist's expression) in order that the picture may be every where in good keeping. But one of the provisions under which this indulgence can be made available, is of so questionable a character, that it

would be difficult to determine what could have been the object for introducing it; and, which equally applies to all carriages, whether used with metallic springs or not, namely, that "the owner's Christian and sir-name, his place of abode and occupation, shall be painted on the back panel of every such vehicle in letters *two inches in length* and of a proportionate breadth." Now the General Highway Act, 5th and 6th William IV., has a provision for the discovery of offenders, (s.76,) by which it is enacted, "that the owner of every waggon, cart, or other carriage, shall cause his name, &c., to be painted on the offside thereof in letters not less than *one inch in length*;" and most assuredly nine-tenths of the heavy carriages we meet on the road are marked with letters not more than one inch in length; thus, if the public safety is not endangered by the employment of such letters on heavy carriages, while under the direction of a clod-pole of a waggoner, it is perfectly absurd to imagine that it would be less secure in the hands of the master of that waggon, himself conducting a lighter vehicle and less dangerous turn-out; and who often is frequently as respectable in his appearance, and as gentlemanly in his demeanour as the man who sports his Stanhope or his Tandem. If, on the other hand, it is intended to guard against evasion on the part of those whose vehicles so nearly approximate in appearance; security might be had by requiring all such carriages to be numbered after the manner of the public conveyances, such numbers being furnished by the surveyor of taxes for the district in which they are made use of. Among the many respectable individuals belonging to the class of society to which this unpalatable regulation is applicable, there are no few that regard it as a personal insult; and although there are some who from party feeling would soften it down to a sort of *ruse de finance*, the majority are disposed to designate it as an unworthy subterfuge to induce people to pay the tax rather than subject themselves to the exposure—a sort of badge of disgrace equally intolerable as that which according to 8th and 9th of William III., clapped the T.P., (town poor), upon the backs of all persons who were receiving parochial relief. The measure was as unwise as it was uncalled for; nor could the worst enemies of the present ministry have suggested a surer method to lower them in the estimation of the many who feel themselves degraded by it. A moderate duty would be infinitely less objectionable than this show-board regulation; and which, if it did not subject the parties to the further charge for a riding horse and livery servant, would be acceded to without a murmur.

ENTOMOLOGICAL SOCIETY.—The general meeting of this society, for the election of council and officers, took place on Tuesday, Jan. 24, the Rev. F. W. Hope, F. R. S., president, in the chair. Mr. Stephens was elected president for the ensuing year; Mr. Westwood secretary; and Messrs Shockard and Westwood, curators. The president congratulated the meeting upon the success of the society, and expressed his conviction that it would produce important practical advantages to the public. The society proposed giving a prize for the best essay on the mode of preventing the ravages of the *Analetha Centifolia*, whose grub is found largely upon turnip plants, and is known under the name of blacks.

CREWKERNE.—EXTRAORDINARY EWE.—There is now in the possession of Mr. Joseph Bicknell, of Hinton St. George, an ewe, thirteen years old, which has had the incredible number of twenty-five lambs, the last of which was exposed for sale in our market on the 14th instant. She produced at four births thirteen lambs, and the increase of the whole has been upwards of 200. She is still as healthy as ever, and supposed to be breeding again. At the last season she yeaned three lambs, which were slaughtered by Mr. Simon Goodland, and each weighed 21 lbs per qr.

AN ARTICLE FROM "THE VETERINARIAN,"

FEBRUARY 1, 1837.

BY MR. YOUATT.

Ne quid falsi dicere audeat, ne quid veri non audeat.
CICERO.

There is no part of the duty of the veterinary surgeon more connected with the comfort and the interest of his employer, than the examination of horses previous to purchase. As to the general character and capability of the animal, perhaps the opinion of a thorough sportsman would be more valuable. He sees at a glance what kind of horse will carry him pleasantly on the road, and gallantly in the field: but the anatomy of the animal—the connexions and relations of the different parts of his frame—the deviations which may not interfere with usefulness and with health, and those with which neither the one nor the other can permanently consist—the early indications of disease—the connexions and the progress of the various maladies to which the horse is subject—these have not, and could not be the objects of the sportsman's close and laborious study. And the veterinarian ought here to stand on his proper ground, and to render good service to his employer. Why is not that system of instruction adopted, and those habits, even within the collegiate walls, encouraged, and afterwards followed up, with all due regard to his respectability, his means, and his professional duty, which would enable the pupil to compete with the sportsman on his own ground, and to beat him on every other? Why is not the riding-school an essential appendage to every seat of veterinary instruction, and the knowledge of the external structure of the horse, and the art of riding and managing him, and bringing fairly out all his excellencies and capabilities and defects, an integral and indispensable part of the veterinary surgeon's education? Then he would be at home in his profession, and useful, and duly appreciated.

It is difficult to say why it should have been so, except that the veterinarian, or the instructor of the veterinarian, conscious of his deficiency in that which regards a material part of his duty, has been anxious and systematically worked to cramp and limit its bounds and scope, so that the public may not detect that want of due preparation which ought never to have existed; but what is the veterinary surgeon now called upon to give his opinion about? What is he anxious to confine his examination to? The powers and qualities, and probable adaptation of the horse for certain uses? No: but his mere freedom from disease—his soundness or unsoundness.

If we alter our relative situations in life, is this all that we, becoming purchasers of horses, should like to get out of our veterinary friend? No, no! We should be a little disappointed, and somewhat angry too, if, being asked whether he thought the horse would suit us for certain purposes for which we wanted him, he were to turn upon his heel, and say, "Why, really, I must decline to answer that question—that is not my province—I see no unsoundness about the horse, and I have nothing more to say." That is the course which many veterinarians pursue, and they argue stoutly that they are right. It was deficient veterinary education—it was the consciousness of not having added the knowledge of the horseman to the science of the veterinary surgeon, that first led to this; and they will be more useful, and more esteemed, and more employed, when the root of this evil is removed.

This, however, is not the point immediately pressing. It is ignorance and incapability of discharging that part of his duty, for which the veterinary surgeon must acknowledge that he ought to be in every point prepared, that is the crying sin now imperiously forced upon our attention. Disease he ought to be able to recognize in all its forms and in all its bearings, and particularly its bearing on the usefulness of the horse. Generally speaking, no appeal should be able to lie against his opinion on these points. There should not be the possibility of a tangible point of unsoundness being overlooked, or of a disease which has no existence being conjured up to the annoyance of the intended purchaser, or to the injury of the seller.

Now, in the present state of veterinary practice, has the person who consults the veterinary surgeon this security? has the seller this defence? or, rather, are not the prepossessions, the prejudices, the theories of different practitioners, with regard to certain points about the soundness of the horse, so notorious, that to take an animal for examination to two different veterinary surgeons, is to ensure two almost utterly different opinions?

There has been a lamentable case of this lately. In the action *Wolfe v. Ellmore*, the most strangely discordant opinions were given as to the soundness or unsoundness of a certain horse. The present article would be too much lengthened if the whole history of this business were entered into. Professor Sewell's first examination of him in September presents a long list of very serious defects. There is not the detail of slight alterations of structure, and petty defects, which the eye of that gentleman is so quick in discovering, and which sometimes should not be dwelt upon when every thing else is right. Most of those which he mentions in his certificate, if existing, were real defects, and the existence of which could not consist with soundness.

The object of the writer will be too well answered, if the attention of the reader is limited to the examination of the same horse three months afterwards, and on the same day, by Messrs. Field and Turner. These gentlemen stand deservedly high in the opinion of their professional brethren, and of the public. The writer of this essay has long associated with them both, and will yield to no one in high estimation of their veterinary acquirements, and deep feeling of their personal worth.

These are their certificates, and the horse was examined by both of them on the same day:—

224, Oxford Street, Dec. 1.

I hereby certify that I have this day examined a grey gelding, sent here for Mr. Yates, and observe that he has a slight defect in the off eye, which prevents him from being considered perfectly sound; a splent on each fore leg; enlargement of the spavin place of both hocks, particularly the near, and a thrush in the near hind foot; but these do not at present occasion inconvenience in his action. He is about nine years old.

J. FIELD, Vet. Surgeon.

311, Regent Street, Dec. 1.

I hereby certify that I have this day examined a grey gelding, sent here by Mr. Elnore, particularly with regard to his hocks, and am of opinion that the said gelding is perfectly free from spavins, and from lameness: but I observe a very considerable splent on the inside of his near fore leg, close to the knee joint, and his off fore foot is slightly contracted. The latter defects, I am of opinion render him unsound.

J. TURNER, Veterinary Surgeon.

Would or could any one suppose that these gentlemen had been examining the same horse? "He has

a slight defect in the off eye, which prevents him from being considered perfectly sound," says Mr. Field. He describes not the nature of that defect, but he pronounces him unsound in consequence of it. It is the only cause of unsoundness in Mr. Field's estimation. Mr. Turner sees nothing of the kind, nor do Messrs. Mavor, Langworthy, or Henderson, who examined the horse on the two following days. "He has enlargement of the spavin place of both hocks, particularly the near," says Mr. Field. "He is perfectly free from spavins," says Mr. Turner, whose attention had been particularly directed to this point. Neither of the other gentlemen says one word of the spavins. "He has a thrush in the near hind foot." Neither of the other four examiners have the least notion of this; but "he has a splent on each fore leg;" so says Mr. Turner, who condemns him as unsound, principally on this account. The existence of the splent is recognized by Messrs. Mavor and Henderson; but it is declared to be of a very trifling nature by the latter of these gentlemen.

"I find him," says Mr. Turner, "perfectly free from spavins; but he has a very considerable splent on his near fore leg, and his off fore foot is slightly contracted, and on both of these accounts he is unsound." Neither Messrs. Field, Mavor, Langworthy, nor Henderson, recognize the existence of this contraction, or the harm done by the splent. Mr. Turner, when questioned as to the splent, made his stand upon it, and regarded it as a fine specimen of the kind of splent which must be injurious; neither of the other gentlemen could see any thing injurious in it.

Now what shall we say of all this? Could this have been the same horse, examined on the same day by the first two gentlemen, and within three days by all of them?

Can such things be,
And overcome us like a summer's cloud
Without our special wonder?

We will not adopt, to its full extent, the strong language of a highly talented junior member of our profession, whose letter shall certainly have a place in our next number, and should have appeared in this, had it arrived in time:—"As to Veterinary Jurisprudence, a part of veterinary knowledge which it is of the utmost importance we should excel in, what is it? A by-word among the legal profession—a laughing-stock for the sensible portion of society—a blank in the pages of the veterinary dictionary—a stain on the character of the profession." This is strong language, not, we trust, yet applicable in its full extent. But this is certain—it is as clear as the sun at noonday—that it needs but a few more exhibitions of this kind to make the examination of horses by veterinary surgeons a perfect laughing-stock among horsemen.

Do we mean to impugn the judgment of these gentlemen? No, no!—their reputation as veterinary practitioners, and as judges of the horse, is sufficiently established in the opinion of every one that has to do with that animal; and, perhaps, we are not quite sorry that this *exposé* involves such men as these, and not others of less repute. It is the inevitable consequence of the system of veterinary education that has been hitherto pursued. The human surgeon is probably a few times, and a very few times in his life, called upon to give evidence in cases of medical jurisprudence; and that he should not then compromise his own reputation and that of the profession to which he belongs, he is compelled to attend a course of lectures of considerable length

on this particular subject. The veterinary surgeon every day of his life, if he has much practice, is called on to give his opinion of the soundness or unsoundness of the horse, or of some other domesticated animal, and that opinion may be the subject of judicial investigation: and what instruction does he receive? Is he compelled to attend a course of proportionally greater length on the subject of veterinary jurisprudence?—or, considering the greater mystery which hangs over the examination of a dumb patient, compared with one who can answer our questions and dispel many a doubt, is the course still more lengthened?

Tell it not in Gath! When we were students at the Veterinary College, the whole course of instruction with respect to this subject was comprised in half a lecture;—now we believe that a lecture is devoted to it. Has no one seen the difference between regular systematic instruction, and snatches of knowledge hastily caught and imperfectly understood? Has no one watched the different progress of two persons, one of whom was slowly and carefully and cautiously grounded in the principles which he studied; while the other received only a few and irregular and confused gleams of light? Here is the root of the evil, and it has existed far too long.

It would have taken some two or three lectures to have well grounded the pupil in the basis—the principle of soundness; and it would have occupied many more to have applied this principle to the various organs and parts and diseases of our domesticated animals, and to have enabled the student to understand, in a general way, how far a deviation from natural structure and function involved unsoundness of constitution or unsoundness of action, and necessarily, or probably, or possibly, led to an incapability of performing the work, or arriving at the condition which we have a right to expect from them. The student is, in a manner, left to form his own opinion of what soundness or unsoundness actually is, and the application of the principle to the every-day affairs of his profession; and then, instead of a comprehensive view of the subject, and a comprehensive examination, if we may use the phrase, of the animal submitted to his judgment, he acquires, or thinks that he acquires, a knowledge somewhat above his brethren on certain points and diseases. In consequence of this, his attention is not exclusively, but somewhat too much, directed to these points; and he sees, actually sees, certain minute defects which escape the observation of others; and he magnifies the molehill into a mountain; or, he fancies that he sees that which exists only in his perverted fancy. Hence our discrepancies of opinion on the soundness or unsoundness of our patients—hence the woful exhibition which we sometimes make in a court of justice—hence the disgrace which we occasionally bring on the profession to which we belong.

Another cause of the compromise which is so often made of the reputation, we had almost said the honour, of our profession, is the difference of opinion which is not only well known to exist between the heads of the College on the principle of soundness, but the almost systematic eagerness with which that difference of opinion is forced on the pupil and the public. Mr. Coleman regards unsoundness to consist in that alteration of structure and function which interferes, or is likely so to do, with the duty and usefulness of the animal. Mr. Sewell considers almost every alteration of structure as unsoundness. To such extent is this carried, that the advocates of these respective doctrines often cannot agree as to

the plainest matter of fact. A mare was returned on a certificate of Mr. Sewell that she was lame in the fetlock—she had ossification there. Messrs. James Turner, and Charles Turner, and Mavor, and Howard, said that nothing was the matter with the fetlock, but that she was perfectly sound. So contradictory was the evidence, that the judge ordered Messrs. Sewell, and Mavor, and Turner, to go into the courtyard and examine her again. On their return Mr. Sewell affirmed that the fetlock joint was still enlarged. Mr. Turner said that in his opinion the fetlock joint was not enlarged; and Mr. Mavor exclaimed, in a pet, that there was no enlargement at all. The whole court was convulsed with laughter.

So here, "the grey gelding," says Mr. Field, "has splents and spavins, and a thrush, but they don't hurt him. He is unsound in the eye." "I beg your pardon," says Mr. Turner, "there is nothing the matter with his eye, nor has he any thing at all like spavins; but he presents a beautiful specimen of unsoundness from splent, and he has a contracted heel." "You are both wrong, gentlemen," says Mr. Mavor; "I acknowledge that he has splents, but they are of no consequence, and in my opinion he is quite sound." "The splents are mere trifles," says Mr. Henderson; "he is sound enough." "There is nothing at all the matter with him," exclaims Mr. Langworthy; "he is as sound as a roach."

How long shall these lamentable, these disgraceful exhibitions continue? How long shall the opinion of a veterinary surgeon with regard to the soundness of a horse be regarded as a by-word and a proverb? What will ere long become of this valuable portion of our practice, if our nonsense, our inconsistencies, and our incompetence, are thus blazoned to the world? There wants, and there must be, a radical reform here. If our teachers will not effect it, the public soon will, and in a way not very pleasant to our feelings and our interest. The reform must commence with the education of the student. The most important part of that education must no longer be systematically, unaccountably, abandoned; and, ere long, by a better division of labour, by a more distinct classification of duty, those discrepancies of opinion which are not reputable to the masters, but most annoying and injurious to the pupils, must cease to be so often obtruded. We will return to this subject, unless it should soon employ a better pen. Y.

[FROM JOHN MURRAY, ESQ.]

SPONTANEOUS COMBUSTION.—I think the cotton manufacturer should be apprized of the imminent danger and risk he incurs from the contact of Cotton and Linseed Oil. To this cause alone, I am inclined to refer the origin of many of the destructive conflagrations which have occurred not only in cotton manufactories, but the warehouses of Liverpool. From facts I might refer to, conjoined with my own experiments, this conclusion may be clearly substantiated and confirmed. A small portion of linseed oil sprinkled in a bale of cotton will certainly occasion spontaneous combustion.

LABURNUM SEED.—The fact of the highly poisonous nature of the seeds of the Laburnum cannot be (especially about this season of the year,) too generally known, as children are apt to eat them from their pea-like forms and the appearance of the pods. Serious accidents have occurred from this circum-

stance, and, if I remember right, death has supervened in more cases than one. I know no better remedy than an emetic, followed by a solution of chloride in water, or chloride of soda or of lime, as strong as can be taken. This is the most effective remedy I have ever seen in cases when *corna*, &c., had followed the action of poisons in the case of accidents from vegetable poisons.

MECHANIQUE.—I see that a serious coach accident has taken place in the case of the London and Hull Express when descending a hill. Such accidents are generally occasioned by the non-application of the drag or slipper, arising from laziness, and the time lost by the coachman leaving his seat, or arising from the short delay that must necessarily take place. I have heard of the adaptation of a substitute for this, not altogether efficient, and certainly inconvenient plan, for retarding the velocity of the coach, consisting in the same means being accomplished by the pressure of the foot on a spring. This appears still worse, because, if the coachman is disturbed by any means, the spring may be relieved or set at liberty on the activity, and the impetus increase the usual velocity. The *mechanique* now applied to the French Diligences, and so successfully efficient, is worthy of adaptation in this country. By means of a screw and winch, under the immediate and complete controul of the *conducteur*, and even the postillion, the velocity is retarded or instantaneously checked, and may be modified according to the degree of inclination of the plane of descent; both the hind wheels are operated on by the *mechanique*.

THE CULTIVATION OF BOG is every day becoming a matter of more importance; but, although it has engaged the attention of the most eminent agriculturists, for many years back, there does not appear to have been lately, any new or very important improvement made in it. The use of clay, sand, and gravel, to bog soil was thought of, as far back as the middle of last century; and their application, when they can be conveniently had, along with putrescent manures, after drainage, &c., is still the plan of reclamation generally adopted. Yet, this method has been found unsuccessful upon flow bogs, except at an unremunerating outlay: the crops seldom come up to expectation, and the soil shows a tendency to revert to its former state. The main cause of this is, undoubtedly, the want of a proper subsoil—in speaking of a subsoil, allusion is not made to the earthy stratum under the bog, but to that part of the bog which is immediately in contact with the improved soil, and which may be stated to be, on an average, about nine to ten inches under the surface)—a circumstance which appears to have been overlooked by bog-improvers and engineers. We know, that moory soils, of eight or ten inches in depth, and having only a very small proportion of earth in their composition, when well decomposed, and resting upon subsoils of fine gravelly clay, are often of gr. at value; the principal cause of difference, then, between their fertility, and that of well-decomposed bog, which has received a supply of earthy material, must be in the subsoils—the one subsoil being bog, and the other earth. The value of all soils, as it is well known, depends, in a great measure, upon the nature of their subsoils; and bog, being an inert, dead, antiseptic, astringent, and imperfectly decomposed mass of vegetable matter, nearly destitute of earthy material, adverse to a circulation of air, and charged with moisture of the most pernicious quality to use-

ful vegetation, in the state in which it therein exists, may justly be considered the worst kind of subsoil. Enrich the soil, then, as we may, still, rain water passing through it, will become more or less deleterious, as soon as it comes in contact with the bog below, and all moisture rising up from the bog, will injure both the soil and the crop; and hence, we see, that the best improved flow bogs, when let alone, soon show by their natural vegetation a tendency to return to their former state. On this account, it appears probable, that by laying an earthy subsoil, about three inches thick (the thicker the better,) and nine or ten inches under the surface, so as to separate the soil and the lower portion of the bog, we would have made a successful step towards its improvement. Mixing a few inches of the bog subsoil with the same material, and then pressing them down, might perhaps have a similar effect, and be cheaper; and, certainly nothing could be better adapted for these purposes, than the most of the limestone debris, which abound so much in this country, and fortunately, in the immediate vicinity of most of the great bogs themselves. By this means, a certain degree of circulation of air and moisture, so necessary to vegetation, would be promoted, and the pernicious moisture rising from below, might lose the most of its deleterious principle, in its passage through the artificial subsoil. The soil would decompose more freely; and, with a due admixture of clay and gravel, would by-and-bye, be converted into rich moory loam, fit for the cultivation of either white or green crops. There would be a few pounds per acre, of additional expense, attending this method—more earthy material and labour being required; but, if the operation of applying the earth to the soil (and certainly less would suffice in this way), and forming the subsoil were carried on, at the same time the expense would not be so great as, at first sight, might appear, especially if steam power were in use; and, it would certainly be a permanent, and might turn out to be a profitable mode of improvement. These views, the subscriber offers with considerable diffidence, especially, as the subject of bog reclamation is one of the most difficult within the range of agriculture, and one about which scientific men, and the most enterprising improvers, are widely at issue, in their opinions; but, if it only has the effect of drawing the attention of others to the subject, it will not be without its use. The cultivation of the flow bogs of Ireland, if they can at all be made remunerative, is a matter of too much importance in a national point of view, to be much longer neglected; and any new idea relating to the subject, may be valuable, by leading to investigation and experiment.—*By Mr. S. Nicholson.*

TO THE EDITOR OF THE CAMBRIAN.

SIR:—Nothing, in my opinion, could be more judicious than the observations of D. P., relative to the propagation of the apple in this county, which have appeared in the *Cambrian*. That his letters may receive their proper meed of attention, and that they may be followed up by practical application, so as to secure beneficial results, is my most sincere and earnest wish. It is unquestionable, that there has been a great decrease in the cultivation of the apple in the extensive neighbourhood from where I write. The causes of this decrease may form the subject of a future letter. Attached to St. Donats Castle, there have been no less than from seven to eight acres of orchard land,

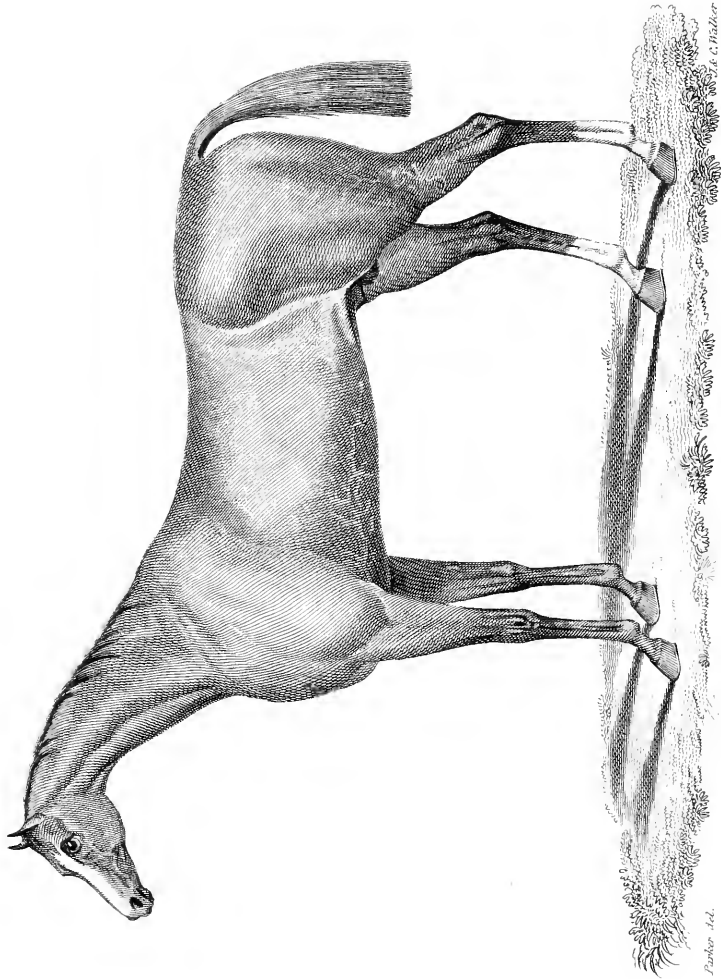
Between the years 1776 and 1780, one Griffiths, a tenant of the Castle, was in the habit of making from 25 to 30 hogsheads of cider annually. People from all parts of the county were accustomed to purchase this celebrated beverage; and now the miserable remnants of the decayed trees alone remain. In the parish of Llantwit Major, there were from 25 to 30 acres of orchard land. It has now the ruins of four cider mills, which are by no means likely to be rebuilt; though there is one gentleman in this parish who is a strong advocate for the apple. Llantwit was distinguished for a number of years, par excellence, by the name of "Apple Town." Penmark parish averaged the yearly manufacture of 20 hogsheads of cider, until of late years. Near Penmark place there is a very large cider mill. The parish of Llantrithid cultivated the fruit extensively at one time; but there, as in the places previously mentioned, it is now ruinously neglected. At Llansanor, there is a very good cider mill in repair, and in this parish a large quantity of apples is produced. Llanmihangel was a noted place for apples, but unfortunately has been doomed to experience the same apathy and inattention that has brought the other orchards into their present deplorable state. It is, however, cheering to observe, that by the orders of the Right Hon. Earl of Dunraven, there is now in course of planting at Llanmihangel about 600 apple trees, and nearly 100 pear trees, which in addition to the old trees, will make nearly 800. It is to be hoped that this praiseworthy example will be followed by our county landlords. From the above facts, and a great many others which might be easily adduced, it is evident how much the culture of the apple tree has fallen off. The influence of those who are the "Lords of the Land," may bring about the desired renovation.

Among the multifarious advantageous uses to which cider may be applied is one which I believe is not very generally known. "One gallon of brandy added to six of new cider, after it has been racked off, makes Pomona wine. This, when eight or twelve months old, is a very good substitute for wine for the use of the poor or sick, and is beyond all comparison more wholesome than the wretched mixtures sold so cheap under the name of "*Lisbon wine*." That the apple may rise to its former notoriety in the vale of Glamorgan, and especially in the romantic neighbourhood of Cowbridge, is the hope of, Sir, yours, &c.,

Cowbridge, Jan. 19, 1837.

T. L.

HONEY TAKER.—A large swarm of bees had fixed their abode on the ceiling of a verandah, and, in due time, when their honey was deposited, we wished to collect it, but were for some time at a loss for the means. Hearing, however, that there was a gardener who possessed a peculiar art of doing it unhurt, he was sent for and desired to bring down the honey. I watched him closely through the whole process, and was told by him and believe, that he used no other precaution than the following. He took some of the plant called *toolsy*, and rubbed it over his body, face, arms, and hands; he then chewed a little, and held a sprig of it in his mouth. With no other than this apparently slight defence, he mounted a ladder, a large dish in one hand, and a sharp knife in the other; and though as thinly clad as his class usually are, with thousands of bees swarming about his naked body, he, with the greatest sang froid, cut immediately through the upper part of the comb, where it was suspended to the roof, and receiving the whole of it in his dish, brought it down, without having suffered from a single sting.—*Indian Reminiscences in the Bengal Moofussee.*



Parker del.

J. C. Walker sculp.

E L I S

Winner of the Doncaster St. Leger in 1836.

London, Published by J. Rogers, March 2, 1837.

ELIS.—(Plate.)

Elis was bred by Mr. Ward, an innkeeper of Stockport: got by Langar out of Olympia (bred by Lord Stamford in 1815) by Sir Oliver, her dam Scotilla by Anvil, out of Scots by Eclipse—Harmony by Herod out of Ruttilia. Elis is a bright chesnut, with white face and white hind legs; neat head, small ears, and good eyes; neck light, large shoulders, and capacious breast; chest deep, good arms, and clean legs, but stands rather over; well and deep ribbed, back straight, tail well set on; widely spread quarter, thighs well let down and muscular; good temper; stands fifteen hands three inches.

In 1835, Elis won the Chesterfield Stakes of 30 sovs each, 20 ft. half a mile, 30 subs. beating the Athenian, Corunna, Tom Beazley, Oberon, Alfred, Sister to Zulima, St. Luke, Kitty of Coleraine, Ethiopian, The Professor, El Pastor, and Menas.

In the same year, he carried off the Molecomb Stakes of 50 sovs. each, h. ft. at Goodwood, (19 subs.) beating, with 5 lb. extra on his back, Haveldar and Skirmisher.

Won the Clearwell Stakes of 30 sovs. each, 20 ft. 35 subs. beating Marmalade, Slane, Alfred, Rattle, Saitator, Arbaces, Toga, Ermine, St. Luke, and Redshank. Same Meeting, he ran second to Alumnus for the Prendergast Stakes.

In the Houghton Meeting, he won the Criterion Stakes of 30 sovs. each, 20 ft, 46 subs. beating Slane, Mr. Wags, Galliard, Vandenhoff, c. by Albany, and the Athenian. Same Meeting, walked over for a Sweepstakes of 50 sovs. h. ft. 20 subs.

In 1836, he was beaten by Bay Middleton, by half a head, for the Two Thousand Guineas Stake, at the Newmarket First Spring Meeting.

At Goodwood, he came out for the Drawing Room Stakes of 25 sovs. each, with a bonus of 10 sovs. for each, (two miles and a half) beating Magician, Esmeralda, Sepoy, Toga. The Drummer, Haveldar, and Helga. At the same Meeting, he ran second to Hornsea for the Cup; the latter being allowed 5 lb. while Elis carried 5 lb. extra. Same Meeting, he won the Racing Stakes of 50 sovs. each, h. ft. 6 subs. beating the Drummer and Taglioni.

At Lewes, he won the Lewes Stakes of 25 sovs. each, 15 ft. &c. with 100 added, 48 subs. beating Hock, Olympic, Rockingham, Luck's-All, Oak Apple, Tiber, Trape's Gelding, and Aristocrat.

At Doncaster, he won the St. Leger very cleverly, beating Scroggins, Bee's Wing, and a good field. His aggregate winnings amount to £6,950.

From Doncaster, he proceeded to Newmarket, where he met Bay Middleton for the Champagne Stakes, and was beaten.

In temper, as well as in the form of his carcass, (his deep ribs in particular) Elis reminds us of the celebrated Dr. Syntax. However, while the late Mr. Riddell was very

careful not to allow the Doctor to come out too often, the Earl of Lichfield has made a prodigal use of the powers of Elis, even at the early age of two and three years: Dr. Syntax continued eminently successful on the Course till he had attained his fourteenth year: Elis, with good running, may come out this year, and prove successful for some of the Cups; but, as "too much has been taken out of him" at so early a period of life, it cannot be expected that his racing career will extend to the unusual length we have just mentioned.

EAST-RIDING AGRICULTURAL ASSOCIATION.

PREMIUMS INTENDED TO BE GIVEN AT THE AGRICULTURAL SHOW, TO BE HELD AT BEVERLEY, ON WEDNESDAY, THE 26TH DAY OF JULY, 1837.

	£	s.	d.
To the Labourer in Husbandry (who has not occupied more than half an Acre of Land,) who has brought up and placed out to Service the greatest number of Children, without receiving Parochical Relief, Certificates of which to be produced	5	0	0
To the second approved Candidate	3	0	0
To the Third ditto	2	0	0
To the Fourth ditto	1	0	0
The Premium to Servants in Husbandry, (being unmarried persons,) will be extended to those who have lived in several places, provided they have lived not less than Four Years in each service; to produce certificates from their masters or families, or in case of their death or removal, from two respectable persons of each service.			
To the First Candidate	4	0	0
To the Second ditto	3	0	0
To the Third ditto	2	0	0
To the Fourth ditto	1	0	0
The same regulation to apply to Female Servants in farming service, and the following rewards given:—			
To the First Candidate	3	0	0
To the Second ditto (not living in service as housekeeper)	2	0	0
To the Third ditto	1	0	0
To the Labourer in Husbandry, who has worked the longest time upon one farm	3	0	0
To the Second ditto	1	0	0
To the Shepherd (being an annual servant) who has reared the greatest proportionate number of Lambs, from not less than 100 Ewes	3	0	0
To the Shepherd who has lived the longest time in one service	3	0	0
To the best Agricultural Labourer; given by Mr. Joseph Beaumont, of Brantingham-Thorpe	1	0	0
All Competitors must be living with families resident in the East-Riding, or Town and County of Kingston-upon-Hull, during the periods of their servitude.			
The second Premium will not be given			

	£	s.	d.		£	s.	d.
unless there are three competitors ; the third unless four ; and the fourth unless five				For the best Agricultural Implement, (given by R. F. Shawe, Esq., of Brantingham-Thorpe).....	10	0	0
The Committee reserve the power of withholding the Premiums, should they consider the applicants not sufficiently commendable.				To the person who shall invent, or introduce into practice, the most useful Plough or other Implement, for performing the excavations in the process of hollow draining ; such sum as in the opinion of the Judges, on proof by certificate, trial, or otherwise, they may think the merit of the implement entitled to, not exceeding.....	10	0	0
Certificates to be sent to the Secretary, not later than the Saturday preceding the show.				The second premium will not be given for cattle, unless there are three shown.			
For the best Bull, of any age, from any part of the Kingdom.....	10	0	0	The Bulls to be kept in the East-Riding, and to serve the cows of the members, at not more than one pound each, for six months.			
For the best aged Bull.....	5	0	0	The Tup obtaining the premium, "for the best Tup of any age from any part of the kingdom," to be let on the ground to the highest bidder, immediately after the premium is adjudged.			
For the best two-year old Bull.....	4	0	0	The premium to the Cows, best two-year old Heifers, the Breeding Ewes, and Shearling Gimmers, will not be granted to any cattle fed on any other than green food for three calendar months previous to the show. Certificates to that effect to be produced, signed by two neighbouring farmers.			
For the best Yearling Bull.....	3	0	0	All stock must be the property of persons resident within the East-Riding, or Town and County of Kingston-upon-Hull, (except the Bulls and Tups hired for 12 months) ; and no Stallion will be considered qualified unless he has served exclusively within the same limits during the preceding season, certificates of which must be produced to the satisfaction of the secretary.			
For the best Cow in milk or in a breeding state.....	5	0	0	The Committee reserve the power of withholding any of the premiums, should the Judges consider there is not sufficient merit, or not in adherence to the preceding rules.			
For the Second best.....	3	0	0	The entry for the premiums to close on the Saturday previous to the show.			
For the best two-year old Heifer, in calf.	3	0	0				
For the best two-year old Heifer, in calf, bred by, and the bona fide property of, the shower.....	3	0	0				
For the best Yearling Heifer.....	3	0	0				
For the best Tup of any age, from any part of the Kingdom, (£5 by the Association, and £5 added by J. Greame, Esq., of Sewerby).....	10	0	0				
For the best aged Tup.....	5	0	0				
For the best Shearling Tup.....	5	0	0				
For the best Pen of Five Breeding Ewes, that have suckled Lambs up to the time of the show, the Lambs to be shown with the Ewes.....	3	0	0				
For the Second best ditto.....	2	0	0				
For the best Pen of Five Shearling Wethers.....	3	0	0				
For the best Pen of Five Shearling Gimmers.....	3	0	0				
For the Second best ditto.....	1	0	0				
For the best Mare for Breeding Coach Horses.....	5	0	0				
For the Second ditto.....	2	0	0				
For the best Mare for Breeding Hunters..	5	0	0				
For the Second best ditto.....	2	0	0				
For the best Mare for Breeding Roadsters	5	0	0				
For the Second best ditto.....	2	0	0				
For the best Mare for Breeding Cart Horses.....	3	0	0				
For the Second best ditto.....	2	0	0				
For the best Boar of the large species...	2	0	0				
For the Second best ditto.....	1	0	0				
For the best Boar of the small species...	2	0	0				
For the Second best ditto (given by D. Sykes, Esq., of Willerby).....	1	0	0				
For the best Sow of the large species...	2	0	0				
For the Second best ditto.....	1	0	0				
For the best Sow of the small species...	2	0	0				
For the Second best ditto.....	1	0	0				
For the best Three-year old Coaching Gelding.....	3	0	0				
For the best Two-year old ditto.....	3	0	0				
For the best Yearling Coaching Gelding	2	0	0				
For the best three-year old Coaching Filly	3	0	0				
For the best three-year old Hunting Gelding.....	3	0	0				
For the best Stallion for getting Coach Horses.....	5	0	0				
For the best Stallion for getting Hunters.	5	0	0				
For the best Stallion for getting Roadsters	5	0	0				
For the best Stallion for getting Cart Horses.....	3	0	0				
For the best Yearling Stallion Colt, by Merry Legs, (given by Robert Denison, Esq., of Kilwick Percy).....	5	0	0				

SWEEPSTAKES,

- Of ten shillings each for the best Bull.
- Of ten shillings each for the best Cow.
- Of ten shillings each for the best Yearling Heifer.
- Of ten shillings each for the best fat Steer under four years old.
- Of ten shillings each for the best Aged Tup.
- Of ten shillings each for the best Shearling Tup.
- Of ten shillings each for the best pen of five Suckling Ewes.
- Of ten shillings each for the best pen of five Shearling Gimmers for breeding.
- Of ten shillings each for the best pen of five Wethers.
- Of ten shillings each for the best pen of five Shearling Wethers.
- Of ten shillings each, with £3 added by Mr. William Lee, of Gardham, for the best fat Wether, Ewe, or Gimmer, from any part of the kingdom.
- Of ten shillings each for the best Boar.
- Of ten shillings each for the best Sow.
- Of ten shillings each for the best two-year old Coaching Colt.
- Of ten shillings each, with £10 added by James Hall, Esq., of Scarborough, for the best three-year old Coaching Gelding, bred by, or the bona fide property of, the shower, 12 calendar months previous to the show. N.B.—This premium will not be given unless there are three shown.
- Of ten shillings each for the best two-year old Coaching Filly.

- Of ten shillings each for the best three-year old Coaching Filly.
 Of ten shillings each for the best two-year old Hunting Colt.
 Of ten shillings each for the best three-year old Hunting Colt.
 Of ten shillings each for the best Coaching Mare.
 Of ten shillings each for the best Hunting Mare.
 Of ten shillings each for the best Mare for breeding Roadsters.
 Of ten shillings each with, £3 added by Mr. Henry Edwards, of Market-Weighton, for the best Nag Mare from any part of the kingdom.
 Of ten shillings each for the best Cart Mare.
 Of ten shillings each for the best Stallion for getting Coach Horses.
 Of ten shillings each for the best Stallion for getting Hunters.
 Of ten shillings each for the best Stallion for getting Roadsters.
 Of ten shillings each for the best Stallion for getting Cart Horses.
 Of ten shillings each for the best Yearling Stallion Coaching Colt.

The entries will be made by the secretary, to whom the money shall be paid, and to close on the Saturday previous to the show.

All female stock shown to be the bona fide property of the shower.

All stock intended to be shown to be on the ground by ten o'clock, and a fine of 2s 6d if after that time. At half-past ten no stock will be admitted, except Stallions, which will come on the ground at twelve o'clock.

No stock to be removed from the show ground before one o'clock, except Stallions, which may be removed after they have been shown.

N.B.—By the General Rule, No. 12, "Any Labourer or Servant, or any Animal obtaining the first prize in any class of premiums, given in any one year, shall not be eligible to compete in the same class the succeeding year."

J. B. BAINTON,
HON. SECRETARY.

Beverley, January, 1837.

COMMUTATION OF TITHES—CAMBERWELL.

On the 1st February, a numerous and highly respectable meeting of the tithe owners and rate-payers of the districts of Camberwell, Peckham, and Dulwich was held at the Grove House Tavern, Camberwell, pursuant to the following requisition:—"We, the undersigned, being duly authorised agents of the tithe owners within the parish of Camberwell, in the county of Surrey, whose interest is not less than one quarter of the whole value of tithes of the said parish, do, by this notice in writing under our hands, call a parochial meeting of land-owners and tithe-owners within the limits of the said parish, for the purpose of making an agreement for the general commutation of tithes, pursuant to the provisions of an act passed in the sixth and seventh years of the reign of his present Majesty, intituled an 'Act for the Commutation of Tithes in England and Wales,' given under our hands, this 4th day of January, 1837." Signed Robert Cantwell, on the part of the impropriators, and Martin Nokolds on the part of the vicar.

On the motion of Mr. DRUCE, THOMAS MOORE, Esq., was unanimously called on to preside, and on his taking the chair briefly opened the business of the day by reading the notice convening the meeting, and also a letter received from the Tithe Commission-office, confirming the legality of the requisition.

The names of the tithe-owners and land-owners present were then taken down, when there appeared for Sir John Small, Mr. Cantwell, and Mr. Denton (solicitors), for Dulwich College estate, Mr. Druce, Mr. Ewbank, Mr. Moore; and Mr. Law, as agent of Sir C. de Crespigny, &c.

The CHAIRMAN then called upon Mr. Cantwell, as the representative of the impropriator, to state if he had any and what proposition to make to this meeting, constituted as it now was under the terms of the statute, for the purpose of making an arrangement with respect to the commutation of his tithes.

Mr. CANTWELL said that he had attended the meeting for the specific purpose of making the following proposal, but he would first beg leave to observe, that he could not state the exact amount of the tithe received in 1829, in consequence of its being mixed up with a rent paid under a lease of another property, the owner of which was that year abroad, and no information could be obtained; but the receipts were as follows:—In 1829 to 1830, 100l 11s 1d; from 1830 to 1831, 82l 3s 6d; from 1831 to 1832, 65l 2s 6d; from 1832 to 1833, 65l 7s 9d; from 1833 to 1834, 65l 13s 9d; and from 1834 to 1835, 60l 9s, making a total of 521l 11s 3d, that sum including 82l 3s 6d as a fair rate for 1829. He had also to add to this the cus'omary payment of 6l 4s for the Woodlands at Dulwich. He had only further to observe that Sir John Smith had every disposition to deal in the most liberal manner, with the rate-payers. Then taking the gross amount of tithes received during the above mentioned seven years to be as he had stated, it would give, when divided by seven years, an annual average of 74l 10s 2d, which was the amount he proposed receiving for the next year, in lieu of tithes.

Mr. DRUCE said, that the payment for the Woodlands, at Dulwich, ought not to be included in the average, as it was a separate payment, invariably made by the College.

Mr. CANTWELL observed, that exclusive of that sum, the average amounted to the sum he had stated.

The CHAIRMAN—Then I take it for granted that the proprietor is satisfied to take 74l 10s 2d in lieu of his tithes.

Mr. CANTWELL replied in the affirmative.

The CHAIRMAN then called upon Mr. Nokolds, as the representative of the vicar (the Rev. G. Storey) to state the amount of tithes received by him in each of the last seven years, and also to hear from him any proposition which he was inclined to make as to a commutation for the ensuing year.

Mr. NOKOLDS then stated the receipts to be as follows:—In 1829 the amount received was 1,296l 10s 10d; in 1830, 1,281l 1s; in 1831, 1,232l 2s 4d; in 1832, 1,182l 17s 6d; in 1833, 1,183l 13s 4d; in 1834, 1,104l 17s 5½d; and in 1835, 1,100l 16s 2d. The diminution in the last four years was to be accounted for by the vicar having made allowances to certain payers, with a view to induce them to make some payments, rather than remain in arrear of the whole amount, and it might be also necessary for him to state that in all these cases a receipt as for the whole payment had been given to each of the parties who received the benefit of this allowance. The amount of these allowances were, in 1832, 46l 5s 9d; in 1833, 50l 6s 3d; in 1834, 45l 12s 1d; and in 1835, 35l 6s; making altogether the sum of 177l 9s 11d, which sum he thought should now be added to the corresponding years in which the decrease of receipts had taken place.

The CHAIRMAN asked if the sum stated by Mr. Nokolds were made with the necessary deduction for the expense of collecting the tithes?

Mr. NOKOLDS said it certainly was not, nor was it necessary, as the meeting would at once perceive by referring to the 37th section of the Tithe Commutation Act, which was in the following terms:—

"Provided, that if during the said period of seven years, or any part thereof, the said tithes, or any part thereof, shall have been compounded for, or demised to the owner, or occupier of any of the said lands, in consideration of any rent or payment instead of tithes, the amount of such composition, or rent, or sum agreed to be paid instead of tithes, shall be taken as the clear

value of the tithes included in such composition, demise, or agreement, during the time for which the same shall have been made; and the value shall be awarded on the average annual value of the said seven years, so ascertained, as the sum to be taken for calculating the rent-charge to be paid as a permanent commutation of the said tithes.

"Provided, that whenever it shall appear to the commissioners that the party entitled to any such rent or composition, shall, in any one or more of the said seven years, have allowed and made an abatement from the amount of such rent or composition, on the ground of the same having in any such year or years been higher than the sum fairly payable by way of composition for the tithe, but not otherwise, then and in every such case, such diminished amount, after making such abatement as aforesaid, shall be deemed and taken to have been the sum agreed to be paid for any such year or years, without making any deduction therefrom, on account of any Parliamentary, parochial, county, and other rates, to which the said tithes are liable."

Mr. LILLIE observed that if Mr. Nokolds would refer to a few lines earlier in the section, he would also find the following words: "After making all just deductions on account of the expenses of collecting, preparing for sale, and marketing, when such tithes have been taken in kind."

Mr. NOKOLDS—But we have not taken our tithes in kind.

Mr. LILLIE—Do these large sums you have mentioned include the Easter Offerings?

Mr. NOKOLDS—No, they do not; but the Easter Offerings are very small in their amount. With respect to the general accuracy of the statement which I have submitted to this respectable meeting, I can safely make affidavit in any court or before any authority that they are correct.

The CHAIRMAN begged to assure the gentleman that no such course was at all necessary.

Mr. NOKOLDS felt gratified that his accuracy was unquestioned, and begged to state, that adding together the sums he had stated as actually received by the vicar, together with the amount remitted as allowances, it would give an annual average of 1,222l 15s 5d, the sum on which he proposed that the rent-charge should be calculated for the vicar's tithes for the future.

Mr. DRUCE—Why add the sum of 177l to the actual receipts? I really doubt much the propriety of doing so.

Mr. NOKOLDS—These allowances were only made to induce parties to pay something, who otherwise would have paid nothing, or been unable to pay, as was the case with several of the tenants.

Mr. DRUCE—I'll name one tenant to whom you made no reduction; I allude to Mr. Hennings. There is also another.

Mr. THOMAS—Is his name in your list?

Mr. NOKOLDS, jun., said the remission was made in the shape of a bonus for payment.

Mr. DRUCE—With respect to the Dulwich people, I am satisfied that the reduction was not made to the poor; but in the cases where it was done, as I understand, it was made as a positive reduction to secure the payment of the sum actually received.

Mr. BRADLEY (the present collector of the vicar) said that the allowances referred to were given for payments made within a certain specified time, but he had not the list of persons with him to whom the allowances were made.

The CHAIRMAN observed it would be much more satisfactory to the meeting if he had come prepared with it, as it had now become a matter of considerable importance to ascertain the persons to whom these allowances had been made.

Mr. DRUCE—I am really unwilling to make any unnecessary objections in this case. We are here met to carry the provisions of the act of Parliament into effect in a quiet and gentlemanlike manner if we can, or, at all events, in a compulsory manner, which it is highly desirable should be avoided.

Mr. NOKOLDS could have no wish to do anything illiberal on the part of the vicar; he would therefore, as it appeared to be the general wish of the meeting, strike

out the amount of allowances, which would then leave the annual average at 1,197l 8s 4d, and with which sum the vicar would be satisfied.

The CHAIRMAN—We are now, I think, in a condition, under the authority of the "act" to come to a conclusion upon this subject; but, looking at the variety and importance of the interests with which it is connected, it occurs to me that it would be proper to take a little time longer to consider, and afford an opportunity to landlords and tenants to consult with each other respecting it.

Mr. LILLIE and Mr. NOKOLDS approved of the suggestion.

The CHAIRMAN—The difficulty with me at present is, that it will not be easy for us to explain the matter to the tenants; for, in point of fact, they will be rather worse off than they have been for the last three or four years, as far as the payment to the improprator is concerned, inasmuch as they all would have to pay 74l 10s, in place of the 65l which has been just stated to us.

Mr. DRUCE asked Mr. Nokolds what was done as to the payments of tithes in case a man had a quarter of an acre of garden-ground attached to his house?

Mr. NOKOLDS—An acre of garden-ground pays 15s, and the quarter of an acre would be charged in that proportion.

The CHAIRMAN—Suppose I have a few cocks and hens, what then?

Mr. NOKOLDS—Then a trifle is paid. But, if a man taking a house and garden which is now paid at a certain rate, and he should afterwards erect a building on part of that garden, then no additional rate would be demanded.

Mr. DRUCE—I think we are scarcely prepared to jump to an agreement upon the present state of our information, and therefore I shall move that a committee be appointed, consisting of two gentlemen from each of the three districts, to examine the statements made on the part of the improprator and the vicar, and then come prepared with a report, which can be discussed at another meeting.

Here a gentleman (Mr. Wallie) from the office of the Tithe Commissioners entered the room, and stated that he attended the meeting in consequence of a request made yesterday to the office, that an assistant-commissioner might be present, in order if necessary to assist in their deliberations.

Mr. DRUCE—To answer questions, I presume, should you be asked any, but not otherwise to interfere?

Mr. WALLIE said, certainly so.

Mr. DRUCE then moved, that Mr. Lillie, Mr. Law, Mr. Ewbank, and Mr. Moore, together with Mr. Druce, should form the Committee for Peckham, Camberwell, and Dulwich, to consult with Mr. Cantwell and Mr. Nokolds, and report the result of their inquiry to a general meeting on a future day.

The resolution being seconded was agreed to, and the meeting separated.

COMMUTATION OF TITHES.

TO THE EDITOR OF THE MARK LANE EXPRESS.

Sir,—As the Commutation of Tithes is a subject that deserves more attention from landed proprietors than I conceive has hitherto been given to it, I venture to forward to you the following letter, which has already appeared in the *Norfolk Chronicle*. I also transmit to you the copy of a letter I had the honour to receive from Mr. Simpson on the same subject, which, as it embraces a subject of great legal importance to all persons interested in the Commutation of Tithes, and I have the permission of that gentleman to make what use of it I may think proper, I do not hesitate to request that you will insert the same in your very useful and widely circulated Paper.

I am, Sir, your very obedient humble servant,
W. NORFOR.

TO MR. W. NORFOLK.

7, New Square, Lincoln's Inn,
January 23, 1837.

Sir,—I have this moment read your letter in the *Norfolk Chronicle* in which, after a very clear and practical elucidation of the operation of the Tithe Commutation Bill, you remark upon the different returns of prices of corn made in the *Gazette*, and incidentally on some tables published by me. It is true, as you have stated, that the Comptroller of Corn Returns was in error in the return of 7s 1½d made in August last; but you are yourself in error when you state that return to have been in conformity with an order of the House of Commons; it was made, as it is expressed to be "pursuant to an Act passed, &c., intitled—an Act for the Commutation of Tithes in England and Wales." And herein is the difficulty, for, had it been in return to an order of the House of Commons, it might have been amended, but, as pursuant to, and in short thus rendered part of the Act, the error can only be remedied by another Act for that purpose. Have the goodness to turn to the Act itself, and you will see that this is the case. Clause 56 enacts that "The Comptroller of Corn Returns shall, immediately after the passing of the Act, cause an advertisement to be inserted in the *London Gazette* stating the average price, &c." And the next clause provides—"That the rent charge shall be the value of so many bushels as the same would have purchased at the prices so ascertained by the advertisement to be published immediately after the passing of this Act." The advertisement therefore published in August, pursuant to, and immediately after the passing of the Act, became, however erroneous, *actually a part of the Law* upon which the commutation is to proceed, and the return of wheat at 7s 1½d ascertained thereby, is, however, much of a blunder, the only legal return; for the return of quarters in February was in return to an order of the House of Commons, and was long prior, and had no relation to the enactments above mentioned; and the advertisement in December last, stating that the price of wheat ought to have been 7s 0½d, cannot legally amend the error; for, not having itself the authority of law, it cannot correct that which is actually a part of the law. The return of 7s 1½d is, therefore, at present the only legal and binding average of the price of wheat for the purpose of Tithe Commutation; but it is to be presumed that Parliament will, in the next session, amend the error by a bill for the purpose. It is not impossible, however, that this course may be resisted by those whose interest it is that the commutation should proceed on the basis of the higher average. Meanwhile, to meet every possible case, a second edition of my little book will be published in a few days, containing both the averages adapted to all the tables; so that parties will be enabled to calculate upon the legal return of August; until a new bill shall have passed the legislature, ~~and~~ upon the price 7s 0½d after that period. I am ~~much~~ flattered by the belief you express that a new edition will be found useful, and I have the honour to be, Sir, your obedient humble servant,
W. PALGRAVE SIMPSON.

PLOMESGATE UNION. — The Guardians of this union have published a statement of the comparative expenditure in relief of the poor, for one year before, and one year since, the formation of the union:—The average expenditure before the union was, 19,802*l*, on an average of three years ending the 25th of March, 1835; and the expenditure since the union, from the 25th of Dec. 1835, to the 25th Dec. 1836, was 11,781*l* 18s 10d; showing a saving of 8,020*l* 11s 2d, being 40½ per cent. In the expenditure of some parishes, considerable sums for migration of labourers to the north of England, and for emigration to the Canadas, are comprised. Some parishes have raised money for those purposes, which being charged on the rates, does not appear in the above account.

PLANTING POTATOES.

TO THE EDITOR OF THE MARK LANE EXPRESS.

Sir,—You have below the general result of a crop of potatoes planted in April last year, with a view to ascertain what difference, if any, might occur—1st, where the potatoe was planted *whole*, except the crown; 2d, where planted *whole* with *one eye only*.

Soil, sandy loam; within a very few years past, furze-land. Previous crop wheat, stubble turned in late in the autumn, manure from the yard, chiefly cow-dung; a tolerably good dressing, ploughed in, nine bouts to the rod; sort, *Kentish kidney*, dibbled with a large blunt dibble *upon* every other plit, and *well covered*.

Forty-five rods planted with a view to the first, and other forty-five rods with a view to the second question. The distance in the rows, about fifteen inches; depth of holes, full six inches. The roller was passed over after planting, and then harrowed with a hand-harrow; edge-hoed once, and earthed up once by the common one-horse break.

During the growth of the haulm, appearances were much in favour of No. 2; and, as to *weight*, when taken up it retained its superiority over No. 1, by a yield of full one quarter more; but the potatoe was knobby, large, irregular, and ungain; No. 1, very uniform in shape, somewhat exceeding in size *ordinary* ware; a good table potatoe.

The general produce, when taken up late in November, not to be complained of, and boiling remarkably mealy, if properly boiled.

Doubtless such experiments have been often made, and a better or more detailed account of them has as often been given, but such as mine were, you are heartily welcome to make public through your useful paper. You are the best judge of their worth, whether to insert them or not.

I am, respectfully your's,

THOS. LEE.

Bexley Heath, Feb. 1, 1837.

P. S.—Were the experiment to be repeated, the distances, both as to plit and in the rows, might, I think, most usefully be enlarged. I may just observe, that some of my neighbours, who had planted *sets* or cuttings, had very indifferent crops.

DREADFUL EFFECTS OF THE NEW
POOR LAW,

OR, AN EMETIC FOR THE TIMES.

TO THE EDITOR OF THE MORNING CHRONICLE.

Sir,—A pauper in the Uxbridge Union met with a serious accident, and having a large family, the Board of Guardians allowed eight shillings a week during his illness, besides which the medical man has ordered him to have one ounce of arrow-root, half-a-pound of mutton, and six ounces and a half of port wine daily, making a total *out relief* of twenty shillings weekly, and this the guardians feel themselves fully authorised in allowing. What after this can be said by the editors of those papers who are so constantly writing upon the oppressive working of the new law? What can be said! Why any thing; because all they write is in total ignorance of the poor or the poor-laws.

Uxbridge, Feb. 2.

A GUARDIAN.

TO THE EDITOR OF THE MARK LANE EXPRESS.

In your last week's paper I find an article upon Temperance, showing the amazing benefit that is likely to accrue from Temperance Societies being established throughout the kingdom, and what America is doing by the abstinence from ardent spirits. Far be it from me to declaim against any man or set of men whose object is nothing more than mere morality, we ought to admire morality as being the forerunner of virtue; the design of the members or leaders of Temperance Societies may be good, but still it is mistaken zeal, they begin at the last part of their business. The first, as far as I am acquainted, the members of the Temperance Societies pledge themselves not to drink any kind of fermented liquors. Well now, who are chiefly the members of the Temperance Societies? To this, I think, most of them will answer, those who either were drunkards or entered that society with an idea of setting an example to drunkards. But, however the object of that society or societies is to reclaim the drunkard, but as to the most effective means of doing that? They call a meeting, dilate upon the dire effects of drunkenness, which truly is a most abominable crime. They produce, and very properly too, the disgrace the individual brings upon himself, family, friends, and country, by such a degrading vice. And undoubtedly, the audience may partly become converts to their cause; but why? because they have just heard such a lecture rung in their ears, and for the moment resolve never to indulge any more in those cursed liquors. One may compare those resolutions to a blind man who had been stumbling along for years, and being told of a smoother path, resolves for the future to walk in it, but unfortunately, from his blindness, he still stumbles, and will stumble till his eyes are opened, so that he can see his path clearly. Just so it is with a drunkard, he will never walk along the virtuous path of life till his spiritual eyes are opened, and then he will be able to see the delightful of all paths, a virtuous life: it reminds me of the immortal Socrates, who when brought before a certain physiognomist, who pretended to discover the disposition of the mind by the cast of the countenance, told Socrates that he had a most morose disposition, at which the bystanders wondered who knew him to be quite the contrary; but Socrates silenced them by the following expression; "True I was so, but philosophy has cured me." Just so it is with mankind in general; we are all bad, base, depraved, fallen creatures—naturally so, but that philosophy which has been applied to the mind has raised us to what we now are. Here then we see what is the cause of drunkenness, namely, ignorance. And to know the cause of a disease is half its cure; so, to know the cause of drunkenness will be a grand step towards removing the evil. According to the present system, they take a man's vow who scarce knows right from wrong, and how can they expect him to perform a vow of which he has so imperfect an idea? I would ask why are they reformed characters? Because philosophy has cured them, and not because they are naturally better than the drunkard; apply the same or a similar remedy to the mind of a drunkard that has been applied to theirs, and they will find that man is very much alike, under the same circumstances. It is just as absurd to attempt to remove drunkenness by a mere pledge, as to attempt to remove one of the greatest mountains in the world. Supposing the whole world were assembled together, what a mixture of character and mind we should have, we should find a train of

minds from the immortal creature down to the beggar on the dunghill, and from what cause? It would not be because we or others were more naturally enlightened than those beneath us, though I admit natural talent assists and displays itself more in one subject than another, still that should not be our general guide because our lot had accidentally been cast in a more fertile soil; and then again amongst this great concourse we should find some whose characters were, to the world, good, but still great drunkards; and if we closely examine those persons, we should find those men very ignorant, but admired or flattered by the world because of their wealth, family or station in life, and I defy any person in the world to produce me an instance where there is such a thing existing as a wise drunkard. A man may be a great drunkard, but it is a thing impossible for a man to be wise and be a drunkard; only apply philosophy, the great guide to the morals, and when that has taken root men need not trouble themselves about drunkards; remove the cause, and then the effects will die away. But now and then a great obstacle may present itself; how are all men to have or get the same knowledge? This I admit is impossible, just as much so as to think that all men may as well be sober; but still we have the means of endeavouring as far as human endeavours can succeed of attaining to that perfection. True, all men cannot be mathematicians, but still all men may be sensible men. All men cannot be versed in science generally, but they may be conversant with their Bibles and works of general knowledge, according to their sphere in life; the very poorest and depraved may become moralized, when the proper means are used for so doing. But now another question naturally arises in the mind, how are all men to have the means of getting general knowledge? To this I answer, by unity and combination. In a village not far distant from where I reside, ten years ago, the inhabitants were a low, depraved, ignorant set of beings, as ever existed. A few enlightened individuals, whose hearts could feel for those around them, entered into a private subscription amongst themselves, and procured books for the benefit of the lowest order of society. After a short time, the demand for books became greater, and they then entered into a more extensive system; every occupier of a poor-house subscribes a penny per week, and others to a greater amount. Books suited to their infant minds went regularly round, and then at the end of the year was deposited on a place appointed by the Managing Committee; after a few years it became evident that works of a higher class were wanted, and of course procured; they had their circulating library, and their permanent one too; so that knowledge became then within their reach. It is now one of the most enlightened villages in the neighbourhood. Those who were the most ignorant are now able to discuss the general affairs of life, and many who were ignorant, and used to assemble together in the bars and public-houses, for want of better employment, are now little philosophers, and an honour to society; drunkenness is now vanishing away, and their now delighted minds needs not a pledge to keep them in the path of rectitude. Behold how great a matter a little fire kindleth! Let the Members of Temperance Societies go and do likewise. If you think this article worthy insertion, you will oblige by so doing.

Yours,

S. GILL.

South Normanbury, Alfreton, Derbyshire.

BANK OF ENGLAND.

AN ACCOUNT OF THE AMOUNT OF ISSUES, SECURITIES, AND BULLION OF THE BANK OF ENGLAND, AS PUBLISHED IN THE "GAZETTE," FROM THE COMMENCEMENT OF THE PUBLICATION TO THE PRESENT TIME, DISTINGUISHING GOLD FROM SILVER.

Average In the Quarter ending	Circulation	Deposits.	Securities.
	£.	£.	£.
July 29, 1834.	19110000	15675000	28502000
August 26, 1834.	19147000	15384000	28679000
September 23, 1834.	19126000	14754000	28691000
October 21, 1834.	18914000	13514000	27840000
November 18, 1834.	18694000	12669000	27138000
December 16, 1834.	18304000	12256000	26362000
January 13, 1835.	18012000	12585000	26390000
February 10, 1835.	18099000	12535000	26482000
March, 10, 1835.	18311000	12281000	26657000
April 7, 1835.	18591000	11289000	26228000
May 5, 1835.	18542000	10726000	25764000
June 2, 1835.	18460000	10568000	25562000
June 30, 1835.	18315000	10954000	25678000
July 28, 1835.	18322000	11561000	26244000
August 25, 1835.	18340000	12308000	26964000
September 22, 1835.	18240000	13230000	27888000
October 20, 1835.	17930000	14227000	28661000
November 17, 1835.	17549000	16180000	30069000
December 15, 1835.	17321000	17729000	31048000
January 12, 1836.	17262000	19169000	31954000
February 9, 1836.	17427000	18366000	31022000

M. MARSHALL, Chief Cashier,
Bank of England, March 2, 1836.

[Bullion, in gold (1834) 8,147,000l.; silver, 451,000l.
In February, 1836; gold, 6,957,000l.; silver, 514,000l.]

RELATIVE CONDITION OF THE AGRICULTURAL POPULATION CONSIDERED.

The alterations which have taken place in the habits and condition of all classes of society during the last sixty or seventy years, both in Town and Country, cannot have escaped the notice even of those persons who have no better evidence of the fact, than such as tradition has handed down to them; nevertheless it is in the country that the altered condition of the people is most perceptible, if not the most substantial. But whether the amelioration which appears upon the surface of society is uniformly distributed, and whether in every rank there exists a due participation in the comforts and conveniences of life, which science and the march of intellect have scattered over the land, is a subject which requires to be examined with a different feeling to that which but too frequently accompanies the researches of the statistical philosopher, and the political economist.

That the day is gone by in which the epithets of clown and countryman can be indiscriminately applied to every one engaged in farming and the culture of the soil, is quite certain: but whether the new race which has sprung up since the commencement of the last war,—the present yeomanry, distinguished from the magistracy and the aristocracy,—are as well educated and as well informed as their compeers, the money-making merchants and manufacturers, is not my object

now to determine; the relative condition of the country population compared within its own limits, is the subject to which I would now exclusively confine myself. I am not one of those who are disposed to regard every departure from long established rules as innovations upon the rights of society, or to assume as a principle that exploded customs must necessarily have appertained to "good old times," which probably never existed. It is quite certain that the sort of family compact which formerly united the village circle, is entirely dissolved; at least with the exception of some few counties, where improvement has not kept pace with the progress of the age. The farmer no longer associates with the wheelwright and the blacksmith, nor does the master place himself at the head of the old oak table, to partake in common with his servants of the homely fare which the farm itself supplies,—the bowl of milk, the meal dumpling and the slice of bacon, served up with a few boiled turnips, upon the pewter platter, or more homely trencher. He no longer shares with them the labour of the fields, nor allays his thirst from the same horn of home-brewed beer, which was never grudgingly bestowed. He no longer quaffs with them the harvest nut-brown-ale, till a scene of uproarious merriment ensues, which beggars all description, save that in the words of the poet, 'twas "thus they rejoiced, nor thought that with the morrow's sun, their annual toil began again its never ceasing sound." If intellectual enjoyment has superseded these ancient customs, and the modern race of farmers leave their hind's and their labourers to regale themselves in their own way,—if the spinning wheel and the distaff, which the mistress of a farm-house formerly used in common with her female servants, have given place to the more dexterous employment of the needle, or even to the elegant accomplishments of the drawing-room,—if the unsightly pillion and clumsy market cart, which, with "back erect, distressed the weary loins that felt no ease," have been superseded by a neater and more commodious vehicle, far be it for me to question the propriety of the exchange. These and such like alterations have only been effected by the application of skill in other departments, and the community at large reaps the full benefit of the improvement. It is from motives of philanthropy that I now proceed to institute the inquiry—not whether the poor man's condition is ameliorated since those days when "ignorance was bliss," but whether his comforts have kept pace with the alterations of the age; and whether his understanding has not been partially yet sufficiently enlightened to enable him the more keenly to feel and to deprecate his humiliated condition. I may be told that the peasantry of England are better off now than they formerly were, and that at the present moment they only want to be put in juxta position with the peasantry on the continent to make them sensible of the advantages they possess. I shall at once admit the fact; but this will in no way divert me from my present purpose, or overturn the principle I would endeavour to inculcate. It is a proud feature in our political economy, but it must not therefore be taken as a line of demarkation, beyond which no advances are to be made. I have myself travelled *à pied* over many leagues of France, Belgium, Germany, Savoy, and Switzerland. I have penetrated into the *chaumière* of the *paysan*, the *grange* of the *cultivateur*, and the domain of the *vigneron*. I have partaken of their homely fare, their *pain de seigle* (rye bread

as black as shoe leather), and meagre *potage*, little better than bread and water. I have seen them labouring under a scorching sun, women as well as men, till by constant exposure, the distinctive character of the former is so nearly assimilated to that of the latter, that the small portion of female attire, which is still retained, scarcely enables one to determine to which sex they actually belong. What a contrast to the women of England! Poor they may be, but seldom despicable. REGARD the village throng collected in the harvest field: can any country—nay, can our own, under any other circumstance, produce a scene of rural industry half so picturesque, or half so engaging, as this assemblage of primeval health and goodly countenances; of women busily engaged in collecting the remnants of the harvest field, and chubby children sprawling on the stubble?

The neat and orderly household arrangements of most of our cottages, and the cleanly appearance of their inmates, might well induce any foreigner to inquire, as did the Emperor of Russia—"But where are your poor?" I admit the principle to its full extent, nor do I deny that the refinements of the age have found their way even to the hearth of the cottage, where the sea-coal fire now supplies the place of suffocating peat and heather, and the rush-bottomed chair and three-legged stool of clumsy workmanship, have been exchanged for neat and useful furniture. These are improvements worthy of the age in which we live: but another and a greater still, which, through the instrumentality of the British fair—the guardian angels of the Sunday school—has conveyed a real blessing to the poor man's fireside. His leisure hours no longer present to him the cheerless void of dull inanity; he reads—the treasures of the Bible are spread before him, and whether he ponders over the sacred volume himself, or assists his lisping offspring to spell their way through the lessons of morality it inculcates, he feels himself exalted as a man—he endeavours to make himself respected as a father. This it was, and this only, which to a given extent counteracted the demoralizing tendency of the former parochial administration of the poor laws; and although I may hereafter incidentally allude to the measures recently introduced in lieu thereof, it will not be to afford them unqualified approbation.

That the "Bill for the better administration of the laws relating to the Poor" will eventually effect its object, I readily admit; but that it has already effected all that is so vauntingly ascribed to it, I feel very, very much disposed to doubt. To bring down my argument to this point, it is necessary to go back to the commencement of the last war, and before the inclosure of the waste lands; to that period when the pecuniary advantages which accrued to the husbandman from the right of pasturage, &c., over the extensive commons and open fields which then existed, amounted to nearly as much as his labour would procure for him;—namely, the keeping of a cow, the rearing of pigs and poultry, the provision of fuel in the shape of peat and heather, and the quantity of rushes and fodder which the low grounds afforded him, either for sale or winter provender for his donkey and his cow; all of which cost him no more than so much time as his wife and family could afford to bestow upon them, together with the few extra hours that he could spare from his own labour. These, upon the average, rarely amounted to less than five shillings per week; but there were instances, and that within the compass of my own knowledge,

where they amounted to double that sum. Let us now compare the prices of grain at the two periods of 1792 and 1835, which at the former was, wheat 42s 11d per quarter, and barley 27s 9d; whereas, at the latter, the price of wheat for the year was 46s 2d per quarter, and barley 29s, thus producing 69s 8d for a quarter of wheat and a quarter of barley in 1792, and 75s 2d for the same quantity of grain in 1835. It is rather more difficult to afford a very accurate statement of the prices of labour at these several periods, because it varies very materially in different counties at the same time; but I will venture to assert, there was no material difference in the money rate of wages for agricultural labourers in Norfolk at the period of 1792 and 1835, namely, day labourers 1s to 1s 2d, women 6d; threshing wheat 1s per coomb, barley 8d, and oats 6d; to which was added in the former period, two pints of home-brewed beer per day in summer, and one pint in winter, but at the latter date *none at all!* Harvest wages were, in 1792, for a good workman, from 2l to 45s, with board and lodging, and in 1835, 4l 10s, or perhaps 5l, with neither board or beer: consequently it is clearly shown that the money rate of wages was quite as high (and with the extra allowance of beer) in 1792, as it was in 1835, when corn realized more money, and house-rent, and various small articles of which the husbandman stands in need, have materially risen in value. It must be admitted, however, that the latter period, in consequence of the distressed condition of the tenantry, was one in which the very lowest rate of wages was afforded to the husbandman; so low that it could not "be diminished without lessening the power of labour and its usefulness."

If there is any truth in these data, it cannot be denied that the condition of the labouring poor was infinitely worse in 1835 than it was in 1792, even without taking into account the privileges which they at that time enjoyed in the auxiliary of common rights. The extraordinary rise which took place in the value of grain soon after the first mentioned period, induced many persons to turn their attention to agricultural pursuits, who had never before dreamt of such a measure, and thus the demand for land was so great, that (if policy had not dictated the measure) the cupidity of some overcame the scruples of others, and by dint of example afforded a colourable pretext for consenting to a measure which had heretofore been regarded as downright robbery. Such was the aversion with which many people at that time of day regarded, what was termed the taking away the commons from the poor, that it was stated in evidence before the "Select Committee of the House of Commons" on the subject of the corn laws, in 1811, that in the early part of the practice of one of the witnesses (George Maxwell, Esq.) "an inclosure was considered as a most odious thing, and the two first inclosures that he was concerned in were in Cambridgeshire; the whole of the two parishes was without occupiers for several years, there was such a spirit against the inclosures." The powerful pecuniary considerations which seemed to urge, if not to countenance, this indirect species of robbery, soon overcame the feeble twitterings of the conscience, for we find that during the period of ten years previous to 1792, the number of inclosure bills which had received the Royal assent amounted to no more than 271, whereas in the ten following years, the number had increased to 693, and subsequently, in the

next series of ten years, to 1078, making the aggregate number in those two periods amount to no less than 1771; and as each of which comprised not fewer than two parishes, or less than one thousand acres of land, it follows that, at a moderate calculation nearly two millions of acres of land were abstracted from the labourers in husbandry in the space of twenty years; the consequence of which was that the poor man being dissevered from the soil on which he grew, with nothing left but the labour of his hands, had no alternative when that failed, to procure sustenance for his increasing family, but to resort to those funds which were set apart for the aged and infirm; and of which the sturdy husbandman would once have been ashamed to have partaken. Where is the wonder, then, that abuses should have crept in; that imposition and extortion should have succeeded to a measure which his altered condition and incomprehensive reasoning induced him to regard as that species of right which the stronger party thinks proper to exercise over him, who has not the power to resist? Thus the evil continued to increase, till if it had not been for the timely interference of the legislature, not only the small accession of property which remained to the landed proprietors, after satisfying "those sinful men in the flesh, commonly called solicitors," would have been swallowed up, but even the whole patrimony of our ancestors might have fallen into the same capacious bag. It must not be understood by these remarks that I condemn the policy which led to the inclosure of waste lands, on the contrary, I esteem it to have been a wise and salutary measure, dictated by the soundest principles; and moreover I would add, that not one individual ought to have been invited to turn his back upon his own country, so long as a single rod of land continued to be uncultivated! It is not the taking from the poor man the inheritance which had descended down to him through many generations, which is to be regretted, *but the not giving him any reasonable equivalent in return.*

I have thus far endeavoured to show that it was the deprivation of those privileges before enumerated, which the poor man hitherto enjoyed, that first reduced him to a state of dependence; and the pernicious principle of the poor laws, that no man should have even temporary relief or assistance so long as he had a cow or a pig that he could call his own, consummated the evil, inasmuch as no possible exertion on his part could raise him one step above a pauper. A new era now advances upon him; does it dawn with better prospects? Truly I see no reason to answer in the affirmative; not so much because the new law is defective in itself, as that the old one has engendered pernicious principles that will not easily be got rid of. Charity is an obsolete word, almost banished from our vocabulary. Let me not be misunderstood; we have noble institutions, amply endowed with funds to be expended in charitable purposes, which we may as justly refer to with pride and satisfaction, as the foreigner must regard with wonder and admiration; but this is too much like the giving of alms "to be seen of men." It is hidden, unobtrusive charity—charity disposed to seek for cases of distress, and in the hour of necessity to spread its blessings on the peasant's humble couch, which alone can soften down the asperities, perhaps the unavoidable asperities, of the new poor laws.

Since the evil tendency which the former maladministration of the poor laws had to foster im-

position, and to blunt our charitable sympathies, is now removed; and since the moral torpidity which they engendered was more to be ascribed to the law itself, than to the depravity of the unfortunate wretches who sought to relieve their necessities through its enactments, let us forget the past—let us not insult the industrious man by representing to him the policy and necessity of creating for himself a fund, which will be available under age or infirmity; whilst in the plenitude of his ability, we calculate the very minimum of subsistence necessary for himself and family under the cruel reasoning, "that nothing is more difficult than for a gentleman to form a correct estimate of the means of living of a labouring man. Let any scheme be devised for his maintenance, and you will always find that the labouring man will live at a cheaper rate than that estimated."* You have taken from the husbandman his right in the soil—you have closed the door of the parish exchequer against him—and you have instituted a law which makes no distinction between the unfortunate and the undeserving. Let us encourage, therefore, the saving principle we would inculcate—let us establish a scale of wages commensurate with the necessities of the labourer, and a bonus for the reward of industry; and let a portion of their saving, the 40 and 50 per cent. of which we boast, be set apart for the purpose of administering relief where it is most required. So shall we bring down a blessing on our posterity, and incur a debt of gratitude from those in whose situation we may one day be placed ourselves.

W. NORFOLK.

Delham, Jan. 28, 1837.

THE POTATO.

The potato has become an all-important article in the produce of the farm, drawing large sums to the industrious and skilful cultivator. Whether sold in quantities, or producing pork, it enables him to discharge his rent, with comparatively less dependence on his grain crop for that purpose. The potato has, also, become a necessary ingredient in the general disposition of household economy, from the higher to the more humble classes of the population. It forms the uniform basis of food to man, as well as to the domestic animals which he keeps for his use; and its presence is sought for among the choicest viands that are placed upon our table. On a good or bad crop of this valuable root, much general comfort or privation follows, and, to millions of human beings, comes home to their very existence. The numerous and distressing cases of failure in its production, experienced during some late years, have excited a deep interest, and a corresponding anxiety, on the subject of its future success, and a desire to arrest, if possible, the growing deterioration of the potato, which, in some districts, has been so alarmingly extensive, as to excite apprehensions of its utter annihilation. These failures have been attributed to various causes, and, perhaps, like many other results, may be set down to a combination of circumstances acting together, and, in their joint influence, producing the evil consequences here complained of. The opinions which I am now about to express on the cause of failure, are the results of some experience and deep reflection. In every case of failure,

* Vide Mr. Chadwicke's Report to the Poor Law Commissioners.

the misfortune must be attributed to one or other of two causes, or to both conjointly—that is, either to unsound seed or unskilful labour, or to both, the latter of which, I am persuaded, often occurs. Where a field is planted with potatoes, and, with ordinary care, fails to produce a crop, either by sending up weak, unhealthy plants, or, perhaps, none at all,—in this case, the fault must be in the seed; and, it may be fairly assumed, that, in every case of considerable failure, the cause is in the imperfection of the seed. But, the reader may naturally say, “How come those extensive failures of the potato, of which we have had such sad experience latterly, and that complaints of unsound seed were unknown to our fathers?” The answer to this query is, that the mode of cultivation practised in olden times, was different from that pursued in the present day. Our fathers planted the potato for themselves and their household—quality, and not quantity, was their chief object. Hence, they planted early in the season, and dug them out late, compared with the modern system, and very frequently planted them on old lea, between the middle and latter end of March. But, the prevailing mode now, and for some years past, forms a decided contrast. The farmer now cultivates them with the view of feeding his horses, his cows, his pigs, and, after this, to load vessels for export to distant markets; and the consideration of preparing the land for wheat, is kept steadily in view. Hence, a partiality has been created for late planting, even on the ground of obtaining a greater quantity than might be expected from early planting. As the potato became extensively cultivated, and the quantity immensely increased, its relative value became less; then a growing disregard to its quality, either as food, or as affecting its keeping virtue, and a recklessness of the season of planting, as well as the preparation of the soil, the choice of seed, and the time of raising them out of the ground. For many years past, the potato has been unduly treated. In the month of May, when all the other farm labour was completed, the potato, being last in receiving the attention of the farmer, was committed to the earth, under a combination of unfavorable circumstances. Taken up from the ground, and housed, or covered up in bins, in the beginning of October, it was suffered to remain until May, being about seven months, the latter two months of which it has been sprouting, and sending forth shoots from six to twelve inches in length. The heat of the sun, and returning Spring, acting upon the natural succulence of the root itself, forces on a premature growth, and the vegetative powers of the seed are, thereby, diminished or exhausted. Then are those potatoes, after suffering this diminution of their natural vigour, taken up, and the sprouts which they had set forth rudely broken off, cut into numerous sets, often exposed to the drying atmosphere, planted in a soil parched by the burning of an April, or perhaps a May sun, and the scorching winds of that arid season, intermixed with a scanty portion of rough, dry manure; and to perfect the climax of mismanagement, the operation of planting performed on a dry day. Another great injury is done to the potato, in cutting it into many sets, thereby exposing a wounded surface, much larger than that encompassed by the skin, to the drying influence of the soil and atmosphere; and, being planted in May, has often to endure several weeks of the driest season of the whole year, before a chance of vegetation. In the mean time, its natural juices are exhausted, and its vegetative powers impaired or annihilated. Now, when this course of injudicious treatment is practised through a succession of years, the potato de-

clines in vigour, its constitution is weakened, and it is then reduced to the condition of a sickly, feeble root, incapable of resisting the effects of a long-continued drought, after the season of planting. The potato, being a very succulent root, must retain a sufficient quantity of its juice, until it sends forth new roots, whereby it draws its supply from the soil in which it is embedded; but, if, by any process, its juices are wasted before its roots are extended, the seed then declines in what is termed the dry rot, or, in other words, the deprivation of those juices in which consist its vegetable life. Having detailed what I consider the evils connected with the modern system of cultivating the potato, I will shortly state the mode which I believe ought to be observed, and which, I feel persuaded, would insure the farmer against the misfortune of general or partial failure. First, then, in the due preparation of the soil, by thorough ploughing and pulverizing as much as possible; next, the application of old dung in as moist a condition as possible, and in proper quantities, such as may give reasonable expectations of good produce, in place of the scanty portions of dry rubbish too often observed on occasions of planting; if manure is scarce with the farmer, it would be more for his interest to plant but one acre, where he would be disposed to have two. By taking the lesser portion of land, he could reap the advantage in his potato, as well as in his succeeding crops. Then, to be provided with the seed as sound and as healthy as possible, and which has not been growing in bins or the potato-house. How is it possible, that this root can first send forth its sprouts, extending a considerable length, and not be exhausted?—These shoots are rubbed off, and the same root is required to give out new sprouts, which cannot, of course, have their proper and natural strength. Further, I would, in no case, cut any potato into more sets than two, by dividing it with a knife; I should even prefer this to planting the whole root. I have, for some seasons, mixed the sets immediately when cut, with a little dry, newly-slaked lime, which, probably, formed a coat over the wound, and prevented the escape of moisture; and, above all other considerations, early planting, namely, from the middle of March to the middle of April, and not later. The good effects of early planting are two-fold. Four, five, or six weeks of active vegetation are going forward in the ground, its natural place, instead of the same process in the bin or house. The strength of the potato is secured, and the first buds destined to fructify in the earth, in place of being torn off before planting. Secondly, by planting in the middle or latter end of March, the soil then retaining much of the moisture of the previous Winter, a portion of which preserves the seed, and promotes its vegetation. But, in the late planting, the soil is dried up, and divested of those advantages. By the early mode, the potato has put forth roots, and laid hold of the soil, which enables it to endure the parching months of May and June following and, further, where it is practicable, I would recommend planting in lea, as old as possible, or in land which had been under clover, as being best calculated to insure the largest quantity, as well as an improved quality of the potato.—*Correspondent of The Downpatrick Recorder.*

EXTRAORDINARY PRESERVATION.—A Ewe belonging to Mr. John Steel, of Warcop, was overblown on Warcop Fell, on the 23rd of December, and on the 11th of January, the poor animal was discovered, having been nineteen days under the snow. It was very weak, but comfortable restoratives being giving it, it recovered and is now as well as ever.

ON HEDGE-BIRDS WHICH ARE ALLEGED TO BE MORE OR LESS DESTRUCTIVE TO FIELD AND GARDEN CROPS.

(From the Quarterly Journal of Agriculture.)

DECIDEDLY DESTRUCTIVE HEDGE-BIRDS.

Amongst the birds which fall to be considered under this division, some are so wild and wary as rarely to approach gardens, but all of them do more or less injury to crops in the open fields. I shall begin with those birds which are exclusively grain-eaters, and make no return for their depredations by destroying insects, though they no doubt contribute to keep down the diffusion of weeds by the quantity of their seeds which they devour, as will be adverted to in the sequel.

The goldfinch, goudspink, or gooldie (*Fringilla carduelis*, Linn.), is a common and well-known, though not a very numerous species, probably because its peculiar food is rather scanty, and the supply precarious, particularly in the spring and early summer months. It is well and elegantly said by M. Mantheillard, that beauty of plumage, sweetness of voice, quickness of instinct, remarkable cleverness, proved docility, and tender affection, are all united in this little bird; and if it were rare, or came from a foreign country, it would be valued as it deserves. Like the gold-crested wren and the tits, it is the habit of the goldfinch to associate in single families of five or six during the autumn and winter, separating into pairs early in summer to build. The favourite spot for rearing the young is an espallier in the garden, or an apple-tree in the orchard, where the birds construct a neat and elegant nest with the softest down, and fenced round with lichens and moss.

The food of the goldfinch being almost exclusively confined to the seeds of plants with compound flowers (*Syngenesia*), the birds become useful during their breeding season, by devouring the seeds of groundsel, colt's-foot, dandelion, nipplewort, and the like, which may have escaped the hand or the hoe in any corner of the garden. At the same time, there are no garden-seeds ripe to which they can do injury, and they never resort, so far as my observation goes, to the seed-bed for plunder, having an aversion, at least in a wild state, to eat from the ground, and preferring to pick the seeds from the receptacle before they are scattered. In the cage, a goldfinch will eat the green heads of groundsel or chickweed: but whether we may infer from this that it may also eat seedling lettuce and endive, or disbud fruit trees, is more than I can venture to affirm, as I have never observed the fact. During the progress of the later broods, (they breed twice or thrice in the season), they can procure a much more abundant supply of syngenesious seeds, inasmuch as the greater number of plants of this sort flower and seed late in the summer. Then it is, indeed, that goldfinches commit the only depredations in gardens which are worthy of notice, by attacking the ripe and ripening seeds of lettuce, and endive, as well as those of China asters and similar flowering plants. It would not be very difficult in any given district to prevent this, by extirpating the goldfinches, for they are very easily entrapped or shot; but few who delight in the lively song or the merry tinkling call-note of this pretty bird would wish to take the trouble, while the benefits conferred well counterbalance all the injuries done. The best way is to scare these birds from the vicinity of choice seeds

when ripening, by a bit of netting or a stuffed owl, or even a few feathers tied along a thread.

One of the chief benefits conferred by the goldfinch on the gardener and the farmer is the destruction of thistle-seed. It is almost impossible, as is well known, to grub up every thistle in a district so as to allow none of them to run to seed, and the winged down attached to these seeds serves to spread them about to considerable distances. It is about this period that the old goldfinches and their young families examine every ripe head of thistle-seed which they can find, and banquet on the contents. These, however, are sometimes scanty enough, for much of the thistle-seed seldom ever ripens, particularly if the weather be very dry to prevent its filling, or very wet to cause it to rot; while, in more favourable seasons, neither too dry nor too wet, certain small fly-grubs eat almost every seed in a district, as if Providence, by means of the birds and the insects, had created a check to the diffusion of these troublesome weeds. Any one who chooses may verify the fact respecting the grubs, by trying, as I have done, to collect the seeds of the several species of the thistle, some of which, such as the musk and the milk-thistle, are by no means to be despised as ornamental plants. I never could find a single head of good seed on the musk-thistle (*Carduus nutans*), though it abounds in some places, as around Glasgow, in Mid-Lothian, and at Kew, on the banks of the Thames.

Dr. Bechstein is probably mistaken in saying that the goldfinch, in a wild state, feeds on radish seed; and Buffon still more in saying that it feeds its young with caterpillars.

Passing over the siskin or aberdevine, which much resembles the goldfinch in habits, but is only a winter visitant in England, and does little if any injury, I shall next advert to the green-bird, or green linnet (*Loxia chloris*, Linn.), a very common bird in every hedge in the empire, and at once distinguished from all our native birds by its greenish-yellow plumage and thick bill. Its harsh notes, which serve for a song in the spring, may be heard on the borders of woods, copses, and hedges, where it builds, rearing more than one brood in a season; and notwithstanding its large moss-built nest, is conspicuous enough, even in a thick thorn bush, to expose it to the discovery and plunder of the school-boy; a sufficient number of the species is always reared to render it a formidable depredator at particular seasons.

The green-bird does not, like the chaffinch, feed its young upon insects, but upon vegetable food; and, during the breeding season, if near gardens, it will bite off the heads of seedling lettuces and cabbage plants; and, being a bold fearless bird, it is not so easily scared as the sparrow, which unites the most wary caution with all its intrusive impudence. Netting over the beds will be the surest protection; but if this is not convenient, recourse must be had to bird-lime or the gun.

In the seed season, again, the old green-birds, accompanied by their young broods, will attack almost every sort of seed that is ripe or ripening, but are more particularly destructive to cabbage, cauliflower, radish, and turnip-seed or flax, where that is grown. Oats and wheat, also, near woods and hedges, suffer considerably, the green-bird being a great eater, and its bill seldom idle, shelling and munching from sunrise till sun-set.

In the later part of autumn, winter, and early spring, green-birds assemble in flocks not quite so numerous as linnets or larks, and pick up what seeds they can find, either in the pods or scattered on the ground. When wheat is sown, accordingly, they

devour great quantities of seed in the fields, though in many cases this may be rather an advantage (at least as some agriculturists might think) in thinning out the crop. The worst of it is, that the pickings are not regular, but in patches, where the flocks of green-birds chance to alight. It must not be concealed, however, that, along with its decided depredations on seeds and seedling plants, the green-bird also destroys many weeds in the same way; for when it does not meet with seedlings, lettuces, or cabbages in a garden, it will, as a make-shift, attack the chick-weeds and groundsel, which it never touches when the garden-crops are to be had.

One of the worst depredations committed by the green-bird is, its disbudbing of trees and shrubs. It particularly prefers the buds of currant and apple trees, but will often also strip all the blossom-buds of the lilacs and other flowering shrubs. There is no protection against these injuries except netting, or shooting the green-birds. I believe also, though I am not quite certain of the fact, that the green-birds do not make a daily round like the tits or the bulfinches, but are irregular in their visits, which renders them the more annoying. They are not, however, so apt as bulfinches to come into gardens near houses, being more partial to hedge-rows, orchards, and copses, for, though by no means wild or shy, they are not familiar, and seem to care less than most birds for human neighbourhood.

The yellow-hammer, yoyt, or yoldren, (*Emberiza Citrinella*, Linn.) is universally known as a hedge-bird, more gay and gaudy than the preceding, and very much disliked in certain districts, for some mysterious or superstitious notions unconnected with its destructive habits. It is a much more abundant species than the green bird, and breeds at least twice, and sometimes thrice, a-year, placing its nest most commonly in a tuft of grass or herbage at the side of a hedge or copse, sometimes as early as the month of March. Although the yellow-hammers feed their young exclusively on insects and caterpillars, they prefer, for their own eating, grain and seeds, particularly oats, and, in new sown fields of oats, as well as wheat, the yellow-hammers may be seen very busily picking up the grain, from the moment it is sown till the period of its sprouting or braiding. To the earlier sown crops, as these birds continue in small flocks till they pair and separate, they accordingly do no little injury; but, after pairing, as there is seldom more than a pair or two in the neighbourhood of one field, the damage which they effect cannot be great, and is partly compensated by the insects which they destroy to feed their young.

When the broods are reared, however, and the corn crop begin to ripen, the one or two pairs become considerably increased in number, and add to the assemblage of sparrows, buntings, and other plunderers, which leave little alongside the hedges but empty husks on the standing corn.

After this period, the yellow-hammers subsist by frequenting stubble fields; and, when the wheat is sown, they live for some weeks on the seed which they find not sufficiently buried, though they are by no means so fond of wheat as of oats.

The yellow-hammer does little or no damage to gardens, inasmuch as it rarely visits these, unless when they are in some very secluded place, or in the wilder parts of the country, where there are few hedges except the farm-house garden hedge. In the moorish parts of Scotland and Cumberland, I have not unfrequently seen the yellow-hammer on the same garden hedge with the corn-bunting, which is a much more familiar bird.

The ciril-bunting (*Emberiza Cirilus*, Linn.) is very

similar in appearance to the yellow-hammer, as well as in habits; but, being by no means a common bird, it requires little notice here. It is known at first sight by the black streaks about the head, which are wanting in the yellow-hammer: besides, from its having less yellow on those parts, it looks less gaudy and more sober.

The reed-bunting, or black-bonnet (*Emberiza Scheniculus*, Linn.), is often confounded by young naturalists and general readers in the north with the black-cap (*Sylvia atricapilla*), which it resembles in almost no particular, except the provincial name. It can scarcely be termed a hedge-bird, for the moorish and marshy places which it frequents have seldom any hedges, though it is found often sitting on such low bushes as grow in these localities, where the male will sit for hours and repeat his unmusical and monotonous notes, though often the only bird-music (if music it may be called) which is to be heard for miles, except that of the sky-lark. The bird in question, in size and form, is very like the yellow-hammer, but has its head marked with black where the other is ornamented with golden-yellow. The female has brown marks where the male is black.

The natural food is very similar to that of the yellow-hammer, though, from the black-bonnet being more partial to moors and marshy places, it has recourse more to the seeds of the plants that grow there than to any sown crops. The small patches of oats, however, occasionally sown by upland farmers after potatoes, are almost certain to attract the notice of all the black-bonnets, young and old, in the vicinity; and I have observed small flocks of them devouring the half-ripened oats on moorland crofts as late as October and November, when they are sometimes joined by flocks of the snow-bunting, when these chance to be driven thither by the early severity of the northern winter. As the black-bonnet is by no means shy, allowing one to approach very near it before it becomes alarmed, it will not be easy to scare the bird from the oats in such cases, and I know of nothing like to save the crop, except shooting or ensnaring the birds.

The black-bonnet is by no means so common in England, at least in the parts where I have been, as in Scotland. Near London, I have only seen one at large in fifteen years, though it is no doubt common in the fen districts, as I have observed it to be in similar parts in Holland, where it must be as destructive as the yellow-hammer. M. Montbeillard tells us, that, on the continent, these birds resort to high grounds in rainy seasons, and assemble in the corn-fields in August, seeking their food in cultivated spots. Cramer says they are fondest of millet, though I never observed them myself in any of the numerous patches of millet which I have passed through in Germany. It is worthy of remark, however, that Buffon, and many of the continental writers, as well as some of our own naturalists, confound this bird with the reed bird (*Sylvia arundinacia*, Latham), and the sedge-bird (*S. salicaria*, Latham), as is evident from their description of the nest, which is not, as they allege, ingeniously suspended over water by attaching it to the stems of reeds, but is uniformly built in the side of a bank beneath some slightly projecting turf or stone, and is of slender materials, more like that of the lark's than any other species. Neither does the black-bonnet, as they describe, sing in the night, though the sedge-bird, an inhabitant of similar localities, does.

The corn-bunting (*Emberiza miliaria*, Linn.) or, as it is sometimes termed, the stocking-weaver, from

its notes resembling the sound of a stocking-frame, is universally diffused over the country, though not in very great numbers, not being so plentiful as the yellow-hammer, but more so than the black-bonnet. It is larger in size but very similar in colour to the sky-lark, which it also resembles in spreading out its wings horizontally as it flies, at least during the breeding season, though M. Montbeillard says, that, at other times, it flies equably and swiftly, mounting to a considerable height. Mr. Knapp is much mistaken in representing it as frequenting lonely and solitary places, for, though it is common on the trees and hedges of meadows, it may also be seen about every farm-house garden, perched on the summit of an old elder, or the highest bush it can find, trilling out its harsh stocking-frame notes, for hours together. According to M. Belon du Mans, it is never found far from water, which it follows, he says, like a woodcock; but this remark does not accord with what I have observed of the habits of the bird in Britain, no more than its winter migration, as it remains with us all the year like the redbreast and thrush, while, on the continent, all these species migrate in winter, a little later than the swallows.

The bunting feeds wholly on grain, as is proved by its strong muscular gizzard, and its remarkable bill, both the mandibles of which are moveable, like those of a parrot, while the edges are re-entrant, the joining being made in a crooked line, and the edge of the under mandible on each side nearly one-third of its length, makes a blunt projecting angle, and is received by a corresponding re-entrant angle in the upper mandible, for the purpose of crushing seeds.

In the early spring these buntings, together with the yellow-hammer and other species, devour considerable quantities of the newly sown seed-corn, particularly oats and barley, and ought to be watched and scared away, or ensnared, or shot. After the breeding-season, they feed on the ripening seeds of beans, peas, wheat, oats, and other crops, while, during the winter, they feed on the stubble lands. They do not omit to visit the newly sown fields of wheat, and levy a contribution on the seed. The following passage from Mr. Knapp's interesting work with exception of the mistake already pointed out, is of interest, as detailing a serious species of injury committed by the bunting:—"I am neither," he says, "inclined to seek after nor desirous of detailing the little annoyances that these wildings of nature, in their hard struggles for existence, may occasionally produce; being fully persuaded that the petty injuries we sometimes sustain from birds are at others fully compensated by their service. We too often, perhaps, notice the former, while the latter are remote or not obtrusive. I was this day (January 25th) led to reflect upon the extensive injury that might be produced by the agency of a very insignificant instrument, in observing the operations of the common bunting (*E. miliaria*), a bird that seems to live principally, if not entirely, on seeds, and has its mandibles constructed in a very peculiar manner, to aid this established appointment of its life. In the winter season it frequents stacks in the farm-yard, in company with others, to feed upon any corn that may be scattered about; but, little inclined to any association with man, it prefers those situations which are most lonely and distant from the village. It could hardly be supposed that this bird, not larger than a lark, is capable of doing serious injury; yet I this morning witnessed a rick of barley, standing on a detached field, entirely stripped of its thatching, which this bunting effected by seizing the end of the straw, and deliberately drawing it out, to search for any grain the ear might yet contain; the base of the

rick being entirely surrounded by the straw, one end resting on the ground and the other against the snow as it slid down from the summit, and regularly placed, as if by the hand; and so completely was the thatching pulled off, that the immediate removal of the corn became necessary. The sparrow and other birds burrow into the stack and pilfer the corn, but the deliberate operation of unroofing the edifice appears to be the habit of this bunting alone."

The tomtit, oxeye, and some other birds, have been frequently observed to draw out the straws of thatch, but more probably when seeking for cursory insects than grain.

The skylark or laverock (*Alauda arvensis*, Linn.), though in no sense of the word a hedge-bird, as it does not and cannot, from the structure of its feet, perch on bushes, may be mentioned here as much more destructive than the bunting, both to the newly sown seed corn and to the ripening crops, inasmuch as the species is greatly more numerous. But few farmers who have any taste for the sweet music of nature, cheering them in their labours and delighting them in their summer walks, when

"Invisible, in flecked sky,
The lark sends down his revelry,"

would grudge even more of the produce of their crops than is ever actually devoured by this interesting species. There is little question but they might find other food in the seeds of wild plants and weeds, could they be conveniently scared from the corn crops at the seasons when they do most damage; but unfortunately this cannot be easily done, larks being less afraid than most other birds of the usual means resorted to for such purposes.

The woodlark (*Alauda arborea*, Linn.) is not, like the skylark, incapable of perching, and frequents hedges as well as heaths and commons. It is by no means a plentiful bird, in consequence, possibly, of being more delicate than the skylark, and liable to the peculiar accident of having its legs frequently broken from the extreme brittleness of the bones, "a peculiarity," says Dr. Bechstein, "which I have remarked in no other species of bird." As it does not congregate in flocks, like the skylark, the sown fields of wheat in autumn, and of oats in spring, are not so liable to be injured by this species. Indeed, it is more apt to purloin a few grains from the standing corn, particularly when the fields are near its breeding haunts, such as the skirts of woods, copses, or patches of heath, furze or juniper. It is much more timid and easily scared than the skylark; but it is so little obtrusive that it will seldom attract attention. Even its beautiful notes, which are only surpassed by those of the nightingale, are so soft and fluty, that they are seldom noticed, though an attentive listener may distinguish them clearly when the little songster, high in the air, repeats by the hour what Burns most happily calls its "soothing, fond complaining."

The linnets or linties, more particularly the grey species (*Fringilla cannabina*, Linn.), are very common in most parts of the empire, notwithstanding the numbers entrapped by bird-catchers, and the nests of young taken by schoolboys for rearing cage-birds. Their natural hardness, the abundance of food which they can generally find, and the wild places in which they breed, are all circumstances favourable to the increase of the species. They do much more damage than is generally supposed. During the breeding season, indeed, they are not so much in the fields, and the injuries they do are confined to occasional excursions to the patches of turnips left to ripen seed, and, at a later period, to the

newly sown turnip grounds; but when the young families begin to wander in small companies as the grain becomes ripe, they devour great quantities of standing corn, attacking it voraciously from the moment it begins to whiten in the ear till the sheaves are laid in the farm carts. After this period the small family companies associate in larger flocks, frequently uniting with green-birds, and subsist on the corn scattered on stubbles, as well as on the seeds of weeds, till the autumn wheat is sown, at which time their numerous bands make the rounds of the newly sown fields, and frequently thin the seed-corn so much, that the braird is scarcely worth preserving. In such cases, however, the farmer seldom dreams that the linnets have done him this injury, but accuses wire worms, grubs, or rooks, though none of these may have destroyed a single grain. It is thus that mistakes are always committed by those who are not accustomed to natural history, of which several examples have already been given in the course of this paper.

The linnet, from being rather wild in its habits, is not a very common visitant of gardens, except when these are somewhat secluded, or the more extensive market gardens near larger towns. In such cases it is a very unwelcome intruder, as it not only strips the heads of lettuce when the seed is ripening, but is as bad almost as the sparrow or chaffinch in plundering the seed-beds of the newly sown seeds, particularly cabbage, turnip, and radish.

In consequence of its wary timidity, the linnet is fortunately easy to scare, and in gardens this may be done by means of a stuffed owl or cat, threads with feathers suspended over the beds, and similar devices; but in corn-fields recourse must be had to the less effectual method of employing boys at particular seasons to frighten the flocks from alighting where they would do injury.

The twite or mountain linnet (*Fringilla montium*, Linn.), distinguished by the rump being of a red colour, is by no means so common as the other, but is of not very dissimilar habits, feeding much in the same way, and requiring the precautions to prevent its depredations which have just been detailed. This bird is not much known except amongst naturalists, being popularly confounded with the common linnet.

(To be continued.)

PLOUGHING AND DRAINING.

EXTRACTS FROM THE EVIDENCE OF MR. SMITH, OF DEANSTON, GIVEN BEFORE THE AGRICULTURAL COMMITTEE OF THE HOUSE OF COMMONS LAST SESSIONS.

Have you used your sub-soil plough without any auxiliary permanent drains?—I have, and it is the worst thing possible to deep plough land without having it first drained, and it is upon that ground that in England the shallow ploughing is so much resorted to; the deeper stiff clay is ploughed the worse; it is because there is thereby a greater reservoir formed to hold water.

Supposing the instance of a marsh where you have no fall for the water, and you have about eight or nine inches of soil upon the surface that is marl, and underneath you come to a stiff substratum of clay, and it is almost impossible to get the water off, the fields are separated by drains, and scarcely any fall for the water, would you there recommend your sub-soil plough?—Certainly not; I think it would just make a reservoir for more water to lodge.

Would this sub-soil ploughing be applicable to dry land?—Most decidedly; I have done it in gravel and sand to great advantage.

After a few years you can plough it up and make a greater depth of soil?—Yes, it is a great advantage to get a great depth of soil, even if it is gravel.

Would you drain in dry land?—I have seen very little land that I would not drain, because, even in gravel and in sand, there is a dilatory subsidence of water, which is injurious to crops in some seasons.

And that description of soil is liable to spring water?—It is.

What is the extent of the farm in Cheshire of which you have spoken?—I think it must be about 500 acres.

Have your experiments been applied to the whole of the 500 acres?—No; he has only got two fields done, but he is going on with the rest.

Can you state any experiments upon any other farm within your knowledge?—I can state many, and one especially that I saw the other day upon Admiral Fleming's property; he has been very partial to this mode of draining for some years, but his overseer did not so soon come to see the propriety of it, but he began two years ago, and he has made very considerable progress, and with great success; he showed me one field where he had it thoroughly drained and sub-soil ploughed, and after a crop of potatoes he had it sown down in grass; it had been in grass about 20 years before, and let for 17 an acre; he has now let it for three years in grass at 56s.

Was that a favourable soil?—It was a very close bottom soil, not a stiff soil, but that sort of close soil with a very thin active soil upon it.

What sort of climate?—It is about the average of Scotland, moistish.

Was not it worse than the average?—I dare say it is; it lies in the great hollow between the Frith of Clyde and Firth of Forth.

Has not the admiral or his bailiff taken a good deal to spade husbandry lately?—They have done a great deal, but it is owing to particular circumstances; the land is full of very large whinn blocks, boulder stones, and it is more difficult to manage the plough in such circumstances.

After you have used your sub-soil plough, when you come to plough 16 inches deep, with what sort of plough are you able to plough the land 16 inches deep?—Always in breaking up for a fallow I take a 16 inch furrow, but after the 16 inch furrow has been done, and the ground allowed to lie in that state during the winter, then in the spring I cross-plough it a depth of 12 inches.

When you have to plough for your fallow 16 inches deep, what sort of plough do you use for that purpose?—I use a plough of the form of the old Scotch plough, but double the size.

How many horses?—Six horses.

What is the width of the sole?—It is rather narrow, the Scotch plough has a very narrow sole.

Do you find that, after having got the 16 inches for your fallow, that you stir your fallows less frequently than in the old system?—It saves a ploughing.

How many ploughings do you give to the fallow?—I gave it one ploughing with a 16 inch furrow, and then another with 12, and then I drill it.

Do you conceive that the plough you are now describing of 16 inches deep, is preferable to ploughing with two ploughs, one following the other?—I do not know that it is.

What is the width of the furrow?—About 12 inches in width.

Is that the width of the sole?—The sole is narrow, but there is a protecting bar of wood, which throws off the furrow; and the great thing that we want to do in these furrows is, not to turn them over, but to set them on edge, by which the atmosphere is allowed to get more freely into the furrow.

When you plough 12 inches, how many horses do you use?—Three horses abreast, and that is becoming very general in my neighbourhood.

With your own horses, which are well trained to the sub-soil plough, when you work it with four horses, how much can you do in a day?—About three quarters of an acre.

The gentleman you spoke of in Cheshire would do considerably less?—He must have done less. I may observe, that I have invariably found that when any person has had a sub-soil plough for the first time, he generally got defeated in consequence of the restiveness of the horses, being yoked in a manner different from what they had been accustomed to, and that the ploughmen were awkward in the management of the implement. When I first began the sub-soil plough upon my own farm, I had a much lighter plough, but I found that it was apt to be thrown out of the ground when it came in contact with a large stone. I have had a heavier plough constructed, of the weight of 400 pounds; the ploughman objected at first very much to using this plough, and said that it was so heavy that he could not manage it in turning. I persuaded him to try it for one day; he complained very much that he was greatly fatigued. I then said that he might throw it aside, and use the lighter one if he chose. He did so, but I found very soon after that he was using the heavy plough, and that the lighter plough was laid aside. I asked him the reason why; he said that the light plough was more apt to get out of order, and more apt to be thrown from the ground, and that now he had got into the mode of balancing the heavy plough at the turnings, he found it much easier to manage than the lighter one; that he did not think it more heavy for the horses.

In yoking the horses three abreast, one goes in the furrow and the other two on the left?—Yes.

Is it in breaking up land or in stirring that you use the three abreast?—I use the three abreast in all my common ploughing.

Do you find that three abreast do as much work as four at length?—I think not quite so much; indeed we had an experiment of three horses pulling the sub-soil plough, but they did not seem to be so able for it as the four horses.

Are you obliged to have a driver when you work three horses?—No; that is the advantage of the three horses, that the ploughman is able to manage them.

Do you do more work with the three horses than with a pair?—Certainly.

About in proportion to the additional horse?—Yes.

Do you speak of this as applied to the sub-soil plough, or as applied to common ploughing?—As applied to common ploughing.

What would be the effect upon the heavy soils not drained?—I should think that when two horses go upon the unploughed land it would do no harm.

Much less than when they go in line?—Yes; I consider going in line upon a furrow very injurious.

Does not going in line upon strong clay land prevent a considerable degree of poaching?—It prevents you from seeing the poaching, but it is doing more harm below the surface; it is an absolute injury to the soil.

The question refers to land not sub-soiled?—I understood it so.

Generally speaking, is not the land under the furrow much firmer than that upon the surface?—It is.

Do you not think that the horse treads it less going upon the furrow than if he went upon the land?—He certainly does; but as he goes upon the land that is afterwards to be turned over, there is no harm done. Mr. Sterling, of Glenburn, a proprietor in Stirlingshire, has contrived a mode of making three horses go upon the unmoved ground, keeping out of the furrow altogether, which is a very good thing, of course it will take more power.

Do not you find that the effect of ploughing three abreast is to make more land with the plough?—It makes more land.

Is that always good?—It is always good, except in ploughing from grass; then it is better to use two horses in the old way.

What is your reason for thinking when land has been properly drained, and the sub-soil moved, that there ought to be no furrows, but that it ought to be laid quite flat?—The reason for having a field laid down without furrows is to prevent the water from accumulating in any quantity, so as to run with force. When the ground is laid down perfectly flat, being previously thoroughly drained, the rain that falls upon the surface perforates through the soil; but if furrows were made, there would be a collection of a body of water, which would accumulate and carry the soil along with it.

Do you find it quite unnecessary, after your system of drainage, to cut surface drains?—Quite unnecessary; I carefully avoid all furrows.

Have you ditches round your fields?—No ditches.

Where do your drains go to?—I have large main drains down the main hollows of my farm, and I bring all my water into those drains.

How do you get into the drains?—I get into the drains under the fences.

That land which is against the fence, or which has underwood upon it, and which is not mowed like the rest, how is it done there?—I make a catch drain, and conduct this catch drain round the underwood.

In the event of one of your drains becoming stopped, what is your guide in order to ascertain the evil?—I have executed about 70 miles of drains, and I have never yet had a stopped drain upon the whole 70 miles.

All the drains were stone?—All the drains were stone, excepting the sub-mains, which are of tiles. I have opened them in many parts to see how they were getting on, and I found them invariably open.

Did your friend in Cheshire drain with tiles?—He drains with tiles; he has done some with stone, but he found it so expensive, from the distance he had to carry the material, that he has taken to tiles.

Do you know the depth at which he lays his tiles?—Two feet and a half; I prefer laying even tiles two feet and a half deep.

Does he fill up with anything?—In some cases he has filled up with gravel, in comes cases he has put straw.

Is not it running a great risk to take the sub-soil plough over tile draining?—Not if the tiles are sufficiently deep.

Within what distance of the tile would you think it safe for the plough to go?—I should like to have six inches over the tile.

You great object is not to let the water get in by the top of the drain?—No, all to get in by filtration through the fissures in the sub-soil.

PLOUGHING MATCH.

The Killileagh, Killinchy, Kilmood, and Tullynakiln, branch of the north-east farming society, held their annual ploughing match on the 20th January, in the fields of Messrs. James Kenning and Andrew Coffey, corporation of Killileagh. Thirty-five well appointed ploughs started at a given signal, twenty in the first class, and fifteen in the second; and the work was all so admirably executed, as to cause much difficulty in awarding the premiums. The judges were:—Messrs. Wm. Chambers, Lecale; Robert Ferguson, Newtownards; and I. Stafford, Ballynahinch; who, with a large number of the society, sat down to dinner at Mr. Freeman's hotel. James Bailie, Esq., of Ringdufferin, took the chair, and Robert Johnston, Esq., Redemon-house, acted as croupier.

After the cloth was removed, the following toasts were given:—"The King."—"The Queen."—"The Princess Victoria, and the rest of the Royal Family."—"The Lord Lieutenant, and prosperity to Ireland."—"The memory of the late Lord Dufferin."—"The present Lord Dufferin, president of the society." After which, the judges were called on for their decision, when the secretary, Mr. Alex. Lowry, announced the premiums, as below. The health of the judges was then given. Mr. Chambers returned thanks, and complimented the society on the rapid progress of improvement resulting from its exertions. The next toasts were, "The successful candidates."—"The chairman."—"The Rev. Mr. Breakey."—"The vice-president, Mr. Robert Johnston."—"Mr. Taylor, of Ballygoskin, late secretary." All of whom returned thanks, in brief and appropriate terms, particularly Mr. Taylor, who returned thanks in a speech replete with instruction upon agricultural subjects, derived from a very extensive tour through the Lothians of Scotland. The farmers of these districts are much indebted to this gentleman for the introduction amongst them of the most modern and approved implements of husbandry. He mentioned the great advantages he was reaping, from a new two-horse threshing machine, with which he can thresh a ton of wheat in *an hour and a quarter!* "Mr. Martin, and the cotton trade of Killileagh." Mr. Alex. Lowry returned thanks.—"The county of Down steam-boat company, and prosperity attend it." Mr. Bryden was called upon, to speak to this toast; when he entered into a statement of the prospects of the company, which were of the most cheering description; he dwelt on the advantages, likely to accrue, in the opening up of so speedy a communication with the port of Liverpool; and announced, that the subscribed capital of the company was now large, and receiving, gradually, much augmentation, owing to the very general popularity of the project; which he further described, as being certain, under proper management, of being a good speculation, independent of the public benefits contemplated. This statement was received with much interest and gratification.—"The town and trade of Killileagh," Mr.

James Davison spoke to this toast, at some length; and expressed his hope, that *all* the landed gentry, in the neighbourhood of Killileagh, would now come forward, and assist the steam-boat undertaking, by which they were likely to be so much personally benefited.

After a pleasant evening, spent in the most convivial manner, the company separated, at an early hour.

The following is the order in which the premiums were awarded:—

FIRST CLASS.—1st premium 1*l* 5s, to Robert Stewart, ploughman for self, Ballymccuran; 2*d*, 1*l* 2s to David Cleland, ploughman to Mr. James Cleland, Ballywoollen; 3*d*, 19s to Rowland Savage, ploughman to Mrs. Lindsay, Derryboy; 4*th*, 16s to James Gibson, ploughman to Mr. John Gibson, Ballywoollen; 5*th*, 13s to William M'Ewen, ploughman for self, Ballydorn; 6*th*, 10s to James M'Anally, ploughman to Mr. Adam Kenning, Corporation; 7*th*, 7s to William Downy, ploughman to Mr. John Downy, Ringdufferin; 8*th*, 5s to Henry Irvin, ploughman to Mr. John Howe, Ballytrim.

SECOND CLASS.—1st premium 1*l*, to A. Magaphery, ploughman to Mr. John Johnston, Ballywoollen; 2*d*, 16s to Daniel Megrady, ploughman for self, Cluntagh; 3*d*, 14s to James Wigton, ploughman to Mr. James Lawther, Ballytrim; 4*th*, 11s to William White, ploughman to Mr. John Harper, Maymore; 5*th*, 8s to William Donnan, ploughman to Mr. Alexander Lowry, Killileagh; 6*th*, 5s to Wm. Ferguson, ploughman to Mr. John Carr, Corporation.

MR. ROBERT JOHNSTON, OF REDEMON'S, PREMIUMS.—For the heat and neatest harnessed horses, 1st premium, 10s to Mr. John Harpe, Maymore; 2*d*, 5s to Mr. Alexander Lowry, Killileagh.

To the ploughman not being awarded one of the branch premiums, who shall have his work finished, and being certified by the judges, as executed in a workmanlike manner.

FIRST CLASS.—1st premium, 4s to John Lawther, ploughman to A. H. Read, Esq., Grocean.

SECOND CLASS.—1st premium, 4s to Hugh Carlin, ploughman to Mr. Andrew Coffey, Tullymacknows; 2*d*, 2s 6*d* to Charles Finlay, ploughman to Mr. Samuel M'Ewen, Ballydorn.

COMMERCE OF SCOTLAND IN 1656 AND 1835.

The Shipping of Scotland consisted in 1656 of 137 vessels, carrying 5,736 tons; in 1760 of 999 vessels, carrying 53,913 tons; in 1800 of 2,412 vessels, carrying 171,728 tons; in 1820 of 3,133 vessels, carrying 288,770 tons; in 1835 of 3,287 vessels, carrying 335,820 tons.

The vessels built and registered in 1835 were 156, tonnage 21,261.

The tonnage of Arbroath in 1835 exceeded that of all Scotland in 1656; and the tonnage of Aberdeen in 1820 was almost equal to that of all Scotland in 1760.

The gross receipt of the revenue of Customs in Scotland amounted in 1656 to 5,847*l*.; in 1707 to 34,000*l*.; in 1801 to 578,000*l*.; in 1835 to 1,529,966*l*.

The Customs collected on Tea and Coffee in 1835 exceeded the whole public revenue of Scotland in 1706.

The gross receipt of the revenue of Excise in Scotland amounted in 1656 to 43,197*l*.; in 1727 to 62,758*l*.; in 1801 to 833,000*l*.; in 1835 to 2,456,705*l*.

The Excise collected on Glass in 1835 exceeded the whole public revenue of Scotland in 1656.

The gross receipt of the Post Office revenue of Scotland amounted in 1706 to 1,194*l*.; in 1835 to 209,206*l*.—From *Oliver and Boyd's New Edinburgh Almanack for 1837.*

POOR LAWS—IRELAND.

We know not any subject which would have induced us to devote so much of our columns to it, to the exclusion of useful practical matter, except the all-important one of Poor Laws for Ireland. The manner in which Lord John Russell's speech, in introducing the measure, was received, and the profound attention paid to his development of the Ministerial plan, is an earnest of its success, and furnishes proof of the anxiety of men of all parties to legislate for the benefit of the sister country. We have given the speeches of Lord John Russell, Sir R. Peel, and Lord Stanley, at length,—the first, as being a full *exposé* of the proposed plan; and the two last, as conveying some valuable observations and suggestions upon parts of it, the practicability of which may seem doubtful. We shall also give the report of Mr. Nicholls, one of the Poor Law Commissioners, who was sent to Ireland for the purpose of making the necessary inquiries, as it not only shews the foundation upon which the Ministerial measure is framed, but also contains a mass of valuable statistical information upon the condition of the Irish labourers. We know that the English Agriculturists are deeply interested in the question, and we, therefore, feel no further apology necessary for devoting so much space to it.

MONDAY, FEBRUARY 13.

Lord JOHN RUSSELL: I beg to move the order of the day for the House resolving itself into a committee of the whole House on so much of the King's Speech as relates to the establishing of poor-laws in Ireland.

The House having gone into committee, the following passages in the King's Speech were read by the clerk:—

“My lords and gentlemen, his Majesty has more especially commanded us to bring under your notice the state of Ireland, and the wisdom of adopting all such measures as may improve the condition of that part of the United Kingdom. His Majesty recommends to your early consideration the present constitution of the municipal corporations of that country, the collection of tithes, and the difficult but pressing question of establishing some legal provision for the poor, guarded by prudent regulations, and by such precautions against abuse as your experience and knowledge of the subject enable you to suggest. His Majesty commits these great interests into your hands in the confidence that you will be able to frame laws in accordance with the wishes of his Majesty and the expectation of his people. His Majesty is persuaded that, should this hope be fulfilled, you will not only contribute to the welfare of Ireland, but strengthen the law and constitution of these realms by securing their benefits to all classes of his Majesty's subjects.”

Lord JOHN RUSSELL then rose and spoke to the following effect: I feel, sir, the extreme importance of the subject which I am about to bring under the consideration of the House; at the same time I feel it is one which, while it has received much discussion, while it has been the subject of a report made by commissioners appointed by his Majesty, who collected a great deal of information in relation to it, is likewise a matter which I can rely confidently the House thus prepared will come to the consideration of, not only with the necessary information at its command, but with a desire to form a safe and dispassionate conclusion. I will preface what I have to say on the subject of poor-laws for Ireland, with some few observations as to the advantages which may be derived from poor-laws in general, the manner in which a poor-law should be

applied, and the abuses to which it is subject. These are matters which are illustrated, I think, very fully and sufficiently in the history of this country. It appears from the testimony both of theory and of experience that when a country is in such a state that it is overrun by numbers, both of marauders and of mendicants having no proper means of subsistence, a prey on the industry of the country, and relying on the indulgent charity of others, the introduction of poor-laws serves several very important objects. (*Hear, hear.*) In the first place a poor-law acts as a measure of peace, (*hear, hear,*) enabling the country to prohibit vagrancy and to prohibit those vagrant occupations which are so often connected with outrage. It acts in this way by the very simple process of offering a subterfuge to those who rely on such means for subsistence. It is an injustice to the common sense of mankind when a single person or family are unable to obtain the means of subsistence, when they are altogether without the means of livelihood from day to day, to say they shall not go about the country to endeavour to obtain from the charity of those who are affluent that which circumstances have denied to them. But when once you can say, Here are the means of subsistence so far as subsistence is concerned—that is offered to you; when you can say this, you can say on the other hand, you are not entitled to demand charity, you shall no longer infest the country in a manner injurious to its peace, and which is favourable to the impostor. (*Hear, hear, hear.*) Another way in which a poor-law is beneficial is, that it is of itself a great promoter of social concord, showing a disposition in the state and in the community at large to attend to the welfare of all classes. It is of use, also, inasmuch as it interests more especially the landowner and persons of property in the country in the welfare of their tenants and their neighbours. (*Cheers.*) A person possessed of considerable property, who looks only to receive the rents of his estate, may be careless as to the number of persons who may be found in a state of destitution, in a state of mendicancy, or ready to commit crime and act as marauders in the neighbourhood of his estates; but if he is compelled to furnish means for the subsistence of those who are destitute, it then becomes as well his interest as his natural occupation to see that all persons around him are well provided for, that they are not in want of employment, and that his immediate tenants can live in a state of comfort. (*Hear, hear.*) I conceive that those objects, and several others which are collateral to those, were obtained by this country by the acts passed in the reign of Elizabeth. When we look to the state of the country immediately preceding and during the greater portion of that reign, we should be inclined to think, if we viewed it as a matter of not so remote a time, but nearer to our own time and to our own neighbourhood, that it must be very difficult to bring the country into that condition of peace, order, and civilization which it now enjoys. We are told with respect to crime in the reign of Henry VIII., that no less than 70,000 persons were executed in this country for theft and various crimes. We are also told by a magistrate of the county of Somerset, who wrote in the reign of Elizabeth, that in that county alone 40 persons were executed in the year for theft and other lawless practices; and the county was in such a state of insecurity that the cultivators of the soil found great difficulty in protecting their herds and flocks and crops from robbery. Gangs, comprising no less than 60 persons, sometimes attacked them, such was the state—not of the county alone—but of most of the counties in England. The writer adds that the 40 persons who were executed in one year did not constitute more than a fifth of all those who were guilty of similar offences, but the remainder escaped prosecution altogether. A number of other instances might be furnished of the deplorable state of the country at that period. Even in London such was the extent of crime that a commission was issued empowering a certain high officer to execute martial law in the streets, and persons found committing depredations in the street were taken up under that commission and hanged without trial. Now that was a barbarous

state of society which it was most difficult to remodel; but the means taken were many combined together. Various changes were made, both with respect to the law and the police, into which I need not enter on the present occasion; but there was one in particular which I think tended to the improvement of the country, to the establishment of peace, and to the creation of that which I consider almost the greatest benefit that can be conferred on any country, namely, a high standard of comfortable subsistence for the labouring classes. (*Cheers.*) That much was effected by the act of the 43d of Elizabeth. The principle of that act was, that the infirm, the crippled, the orphans, and impotent persons should be relieved by the public, and that able-bodied persons unable to procure employment whereby they might obtain their living should be set to work. The act in question was founded on principles adapted to that time, and which I have no doubt were applied with great effect. That, then, I conceive to be the use of a poor-law. I may here mention that a short time after the passing of the 14th of Elizabeth an act was passed in Scotland enacting a system of relief for the poor, but leaving out that part of the law which provided that able-bodied persons should be set to work. The Scotch act provided compulsory relief for those who were unable or incompetent to work. It was a long time before any considerable mischief was found to arise from the English poor-law. No doubt many abuses arose in particular parts of the country. There were abuses stated by a writer at the beginning of the last century, but it was not till towards the end of the century that some very fatal abuses prevailed. I conceive it was the object of the poor-law of Elizabeth to provide in the first place for the relief of those persons who were infirm and unable to work; and in the next place, by compulsory measures, to set able-bodied persons to work—to set them to hard labour, which was distasteful to them, and, in fact, to place them in a situation inferior to that of the able-bodied independent labourer. But there arose about the end of the last century, from circumstances which occasioned a great scarcity of provisions, the cause of which I need not go into now—there arose a notion that the principle of the poor-law was that all persons, whether industrious or idle, whether deserving or undeserving, were entitled to be maintained by the parish funds. The evil of this system soon began to be felt. It was impossible such a notion of the law could be carried into effect without occasioning the greatest evils. For a long time the idle and profligate found it more to their interest to live on the parish funds than to obtain their livelihood by the regular course of employment; they found that they possessed greater advantages living in that way than if they had sought regular employment, and had relied for the means of subsistence on their character and industry. I am alluding now to facts that are so notorious that I need not go into them. I will only refer to one case which is mentioned in the report of the commissioners. It is the case of Soulbury, where the poor increased to such an extent that the landlords gave up their land, the farmers gave up the occupation of their farms, the clergyman gave up his tithes; and the whole parish was left in the undisputed possession of the paupers. It was after many inquiries into these abuses that the Poor-Law Amendment Act was introduced into Parliament and became law. The principle of that bill, as I conceive, is to act fully and fairly on the principle of the 43d of Elizabeth; is to place the pauper labourer, the pauper who cannot find work, and the infirm who apply for support, in a situation more irksome than that of the independent, industrious, and successful labourer. (*Hear, hear, hear.*) Now the means by which this is accomplished are by offering all such persons a residence in the workhouse; by giving them, as the poor-law commissioners state—and I will not enter into the dispute whether that is the case or not—a sufficiency of food, warm clothing, and a comfortable warm residence; but at the same time placing them under a certain degree of confinement; so that while they have the necessary clothing, the means of subsistence, and often a warmer residence in the winter than the independent

labourer possesses, yet the restraint is so irksome to them they are not willing to subject themselves to it except when really in a state of destitution. This has been proved clearly by the assistant commissioners to be the manner in which the poor-law works. I have consulted two of the commissioners, with whom I happen to be acquainted, on the subject, and they both say the food is wholesome, and the workhouse accommodation is better than that possessed by the independent poor, but the confinement renders it irksome, and in that way the workhouse becomes a place that the poor would gladly avoid the necessity of having recourse to. It is to these principles, and to this experience, that we must look very much as a guide in any poor-law that we shall introduce for Ireland. We ought to be unwilling on the one hand to introduce a system which will generate the abuses which have resulted from the English poor-law; we ought to be very willing, on the other hand, if we can, to introduce some of those good effects which have resulted to England from her system while it was attended with beneficial consequences. The poor-law commissioners for Ireland, in the course of last session, made a report which was laid before this House, in which they recommended many measures of improvement for Ireland, and in which they suggested certain measures with regard to the indigent. It is this measure with regard to the relief of the indigent to which I would call the attention of the House, as the principal object of the bill I am now about to introduce. The other suggestions for the general improvement of Ireland, though I may touch on them this evening, I propose to leave for future consideration. The poor-law commissioners, with regard to this question of immediate relief of the destitute, propose in the first place that a large class of persons should be provided for at the public expense by means of a national and local rate. They advise also that there should be money afforded for emigration, and that depots should be provided for persons preparing to emigrate. In considering that report great doubts occurred to his Majesty's Ministers whether it was a good principle to provide only for certain classes, and whether those depots for emigration could be safely and advantageously adopted. It appears from every reflection on the subject that there can be no reason for saying why there are to be only certain classes to which relief is to be extended, that is, provided we are prepared to administer relief. The different classes to whom it is proposed to give relief are here enumerated:—The noble lord here read an extract from the last report of the commissioners for inquiring into the state of Ireland, and stating that in their opinion relief ought to be given to lunatics, to persons who were deaf, blind, and all the labouring poor that were infirm; that they should be supported within the walls of public institutions; that for the sick who remained at home there ought also to be institutions to supply them with medicines; that helpless widows with children ought to be supplied, as well as other persons similarly situated; and also suggesting the support of persons intending to emigrate. The noble lord then continued by saying, Now this enumeration contains so many persons, there are so many classes of persons embraced in it, that you could not, if you undertook to provide for so many classes, exclude others. Including these, I certainly cannot see what objection there can be to provide for the destitute and able-bodied man. (*Hear.*) There are some persons in this list, such as the incurable lunatic, the helpless widow with young children, or the sick man—now these are persons in such circumstances as it is recommended that relief should be afforded to; and which circumstances seemed to us calculated to excite individual compassion, and not circumstances to which exclusive national regard ought to be had. (*Hear.*) If a person in the 25th year of his age, in the full possession of his health and strength, and unable by his industry to obtain a livelihood, or who had not the means of support, were to stand at the doors of one of those public institutions starving, in want of support, and who was likely, if not relieved, to die in a few days, I cannot understand the principle that would distinguish a person in that case as one to whom you would not give relief, when you

give relief to the young and the infirm. (*Hear.*) The real principle to be adopted on this subject is, to afford relief to the destitute—to the destitute, and nothing else (*hear, hear*); and it would, in my opinion, be quite as wrong to refuse relief to the able-bodied person in that situation, as to afford relief to the cripple, to the widow, to a deaf or a dumb person, who was in a state of affluence, and had other means of support. (*Hear, hear.*) It is not, then, the peculiar circumstances which excite public or individual compassion that we are to regard, but, if we have a poor-law at all, it ought to be grounded on destitution, as affording a plain guide to relief. (*Hear, hear.*) Then, with respect to the other proposition, that there ought to be a penitentiary to which the paupers ought to be sent, and that there ought to be depôts for those intending to emigrate, if you are willing to adopt a plan to that extent, of having a penitentiary for vagrants and depôts for emigrants, it is, I say, far better for you to adopt the workhouse system at once; because, if you have a depot for emigrants, it will afford, as it appears to me, great ground for abuses. (*Hear, hear, hear.*) Suppose you get 500 or 600 persons in a depot for emigration, it will be difficult to apply to them that restriction and enforce that discipline which you could do if they were in a workhouse. It may be said that they are merely passengers—that they are in a sort of public inn or hotel until they take their passage, and they are not, therefore, to be treated as paupers entirely dependent for support upon the public. Thus, then, they cannot be restricted nor placed under the same discipline as if they were in a workhouse; and besides, there is no security that they will avail themselves of emigration, for supposing 300 out of 5000 who have been for two or three months in one of those workhouses are told that the ship is ready in which they were to have embarked, and they refuse to go, what means have you to compel them, unless you resort to that which would be so odious as to be impossible to be carried into effect, that is, oblige men to emigrate? Thus, then, after supporting them in the depot you must let them go at large, and they would only go to persevere in their usual habits of vagrancy. (*Hear, hear, hear.*) It appears, therefore, to us that you could not adopt that part of the subject without a great deal more of consideration than the plan proposed by the commissioners appears to us to have received. And deeply impressed, as we have been, with the responsibility that attaches to a Government which proposes a law upon this subject, it occurred to us that the best method of forming a judgment on the subject was seeing whether that law which has been applied to England could, as we understood the noble lord, be enforced in Ireland with advantage to that country. For this purpose Mr. Nicholls, one of the poor-law commissioners, and who is so well known for his worth, abilities, and intelligence (*hear*), I requested to go over to Ireland, and ascertain on the spot whether any thing resembling the machinery of the English poor-law could be applied there. I should mention here that Mr. Nicholls, who has had great experience upon this subject, even before the amended poor-law came into operation, had in one district of this country adopted an improved method in the working of those laws, even before the amended law was carried; but this also ought to be stated, that in the early part of last year he drew my attention to the subject of a poor-law for Ireland, and I have been in constant communication with him on this matter since the commencement of the session of 1836. As I was sure that he was qualified by abilities and experience, so was I also aware that he would carry into the examination of this subject equal caution and zeal. Mr. Nicholls, then, proceeded to Ireland, and the result of his inquiries was, that, supposing it was expedient to extend a poor-law to Ireland, there was no effectual obstacle, no sufficient objection to the establishment of a poor-law in many respects resembling the amended poor-law in England. (*Hear, hear.*) The reasons of that opinion are given at considerable length in the report which I have the honour of laying this day upon the table; and I will now state generally what are the reasons given in that report, and why I think it is expedient to establish a poor-law in Ireland, and to describe what is the nature of the poor-

law that I mean to propose. (*Hear.*) I think there can be no doubt of its expediency, if the House will bear in mind the description which I gave of this country in the reign of Queen Elizabeth—there can be no doubt that there has prevailed in Ireland many outrages consequent upon vagrancy and destitution and the people being left without a remedy or relief. It has happened in Ireland (I do not now inquire as to the causes, but the fact cannot be disputed,) that while the people themselves—unlike the population here—have not improved in their condition, that the population has increased very much in numbers, that there has been this increase in population while there has scarcely been an increase in the means of subsistence, or what I call the standard of subsistence raised. (*Hear.*) So that after a long period of time it is found that there prevails in Ireland, according to the report of the Poor-law Commissioners of Ireland, such an overplus of labour that four agricultural labourers in Ireland only produced as much as one agricultural labourer produces in England. That, it is to be observed, cannot fairly be attributed to a want of industry amongst the Irish people; on the contrary, we have it in the evidence of those examined by Mr. Lewis, and particularly from one gentleman of Birmingham, that he never found the Irish labourer to refuse work, or fail to perform it to the utmost of his industry and capability. There is not, then, a want of industry amongst the people. It is the country that has been allowed to be in such a state that industry cannot operate upon it. It is admitted that the only subsistence of the peasant is derived from the land which he has—it is taken from his small holding—it is not from the gain of regular wages; and where there are regular wages received in particular districts these wages are received only by a part, and not by the whole, of the labouring population. The peasant gets his subsistence out of his small holding; the labourers live upon the potatoes raised by themselves out of that small portion of land they get; and it is by means of its possession and the use of their industry, often very ill-directed, and not by the application of wages from labour, that they are able to maintain existence. The result of this is stated by the poor-law commissioners (though that is a statement of which I doubt the accuracy,) that there are nearer to three than two millions of people, for a certain portion of the year, in an entire state of destitution. (*Hear.*) There is no doubt whatever of this, that a large portion of the people of Ireland, especially those not having land, do practice mendicancy for a great portion of the year. (*Hear.*) I have made some inquiry with respect to the amount and extent of the relief thus afforded to that mendicancy, because it is to be considered that when we say we will adopt a poor-law (and that we should adopt such a proposition is my opinion,) it is to be remembered that a very considerable tax is now raised on the farmers of that country by mendicants (*hear*), and which, I may say, is now raised as a compulsory rate. With this view I asked of my noble friend who sits near me, the noble lord the Secretary for Ireland, to obtain as accurate an account as possible of the amount paid in this way from two or three farmers in ten or twelve districts—the amount that was paid for rent, the amount paid for tithes, the amount paid to the Roman Catholic priests, and the amount paid to mendicants. The result is, I should say, that in most cases 1s. an acre is paid in the course of the year by the farmers for the support of mendicants. In some cases it has been 6d. an acre, in others 9d. an acre; but in one case, where a person had a farm not very considerable in size, it was more than 2s. an acre. That person paid 10l. a-year, not in money certainly, but in food. There was more than 2s. an acre paid for mendicity. Now, this is in itself a very heavy tax, and which cannot be assumed upon the whole to amount to less than between 700,000l. and 800,000l., perhaps a million, in the year. (*Hear, hear.*) And let it be observed that this practice of mendicancy which raises so vast a sum in the country is not like a well-constituted poor-law, which affords relief to the really indigent. (*Hear, and cheers.*) It is the practice in Ireland for the farmer to afford relief to the mendicant who asks for it—the potatoes are there ready for him—

there is no inquiry into the circumstances of the mendicant: generally it is not near home that he begs, and the farmer has no means of knowing him. But that which seems to afford relief to the distressed also promotes and keeps up imposters. (*Hear, hear.*) We have a statement with respect to England which shows the advantage that mendicancy obtains from imposture. A medical gentleman has stated with respect to Suffolk, that he has during the continuance of the old poor-law discovered every species of the simulation of disease. Those who pretended to be affected with catalepsy, those who shammed cripples, and the shamming of some of the most agonizing and excruciating diseases, and all this for the purpose of receiving relief from the parish. (*Hear.*) It cannot, then, be supposed that in Ireland, where mendicancy is so general, and where relief is so freely given, but that the number of imposters must be enormous. (*Hear.*) But there is another evil to which a poor-law would peculiarly apply, and which is, in truth, one of the greatest evils to which the country is subject—it is that the usual manner of livelihood with what I call the labouring classes should be derived from their small holdings of land. (*Hear, hear.*) If you deprive the poor labourer of his small holding of land he is immediately driven into a state of destitution (*hear*), and he becomes a man ready for the commission of any outrage, in order that he may supply by outrage what mendicancy may be unable to procure for him. (*Hear, hear, hear.*) I put the case without referring to the question whether the landlord or the tenant has acted badly or not; but in either case, where the labourer is turned out of his holding, it leads to the commission of outrage. If you suppose a number of persons in possession of their small holdings, and that they are driven suddenly out of them by their landlord, you can then suppose the combinations that are formed—that they return in numbers,—that they come in arms, and endeavour to deprive the tenants succeeding them, and thus repossess themselves by force of the land. But put the case the other way. A tenant is in possession of a holding for three or four years, and this without paying any rent, and the landlord is compelled to get rid of him. That bad tenant, such is the state of the labouring classes, collects the sympathy of that class, and they arm themselves against the landlord. A band is formed for the commission of crime and the crime finds an excuse, and, I will say, a justification in the sympathy of the peasantry of the country. (*Hear.*) Let me advert to one case, for there are many cases of outrage, all arising from this source in Ireland. The case occurred about two years since, and I noticed it in the police report; it shows the sympathy of the peasantry for a person in the condition I have described. A tenant was dispossessed from his holding; a person had taken possession, and he came upon the land, with a farm servant, to cultivate it; the farmer who had been in possession came near to them with a gun in his hand; he immediately aimed at the new tenant—it missed; he cocked the gun again, fired at the servant, and shot him dead on the spot. There could not be a more unprovoked homicide than that. (*Hear, hear.*) It was evident that the farm-servant, who had nothing to do with the holding, and who went there to earn his wages as a labourer, was thus basely murdered; and yet the police, who were in an hour afterwards at the place, could not find persons to give them information as to who committed the murder. Information was refused because the sympathy was for the person who was driven from his holding. This state of society has been produced by the absence of any legal provision for the poor. It has produced on the one hand the most extensive mendicancy, and on the other the most extensive crime. (*Hear, hear.*) It has produced, too, a third consequence, namely, the indifference or neglect, the want of care on the part of landlords as to the manner in which their property is cultivated and their tenants live. In a great part of Ireland the same indifference prevails as to the comfort of the tenants on the part of the landlords. In this country the state of the labourers is looked to, and even in what repair the farm-houses may be. A great amelioration, I believe, in this respect is taking place in Ireland; but generally with the landlords in Ireland they regard the connection

as matter of bargain between them and the tenant, and merely to obtain a certain rent from him. They no more care for the welfare of the tenantry than if they had to do with an indifferent or third person, and that there the transactions are to end. The competition for land in Ireland likewise gives rise to very high rents, to very high nominal rents, and which no unfortunate tenants can pay. The extreme competition for land, too, leads to most injurious consequences, and of course it leads, too, to the extremely bad cultivation of the land. (*Hear.*) There are parts of Ireland in which tenants would be glad to improve the land, but will not do so because there is an extreme competition for land, and also from extensive vagrancy they find it impossible to do so. (*Hear, hear.*) I will take the liberty of reading a sentence from the report of Mr. Nicholls, in which he deals with the evils that arise from this source. They are thus disposed of in a very few words:—"Ireland is now suffering under a circle of evils producing and reproducing one another. Want of capital produces want of employment—want of employment, turbulence and misery—turbulence and misery, insecurity—insecurity prevents the introduction or accumulation of capital—and so on. Until this circle is broken, the evils must continue, and probably augment. The first thing to be done is to give security—that will produce or invite capital—and capital will give employment. But security of person and property cannot co-exist with general destitution. So that, in truth, the drainage, reclamation, and profitable cultivation of bogs and wastes—the establishment of fisheries and manufactures—improvements in agriculture, and in the general condition of the country—and, lastly, the elevation of the great mass of the Irish people in the social scale, appear to be all more or less contingent upon establishing a law providing for the relief of the destitute." (*Hear, and cheers.*) Now, with respect to that part of the case, we have come to the opinion that it is expedient and right to introduce a law for the relief of the destitute. (*Hear.*) The next question is, in what manner is that relief to be given, and to whom is it to be given? I have already stated that I do not think that we ought to limit relief to certain classes. (*Hear.*) You must give relief on the ground of destitution, and to every class and person who is destitute. (*Hear, hear.*) The next question arises, whether you are to afford relief in any other manner than it is now given in some of the improved districts in England—that is, by in-door relief to the paupers. (*Hear.*) The poor-law commissioners have expressed a very strong opinion upon this subject, and they give reasons which I think conclusive on the subject. They are of opinion, and I think so with them, that the administration of out-door relief would lead to a most pernicious system, mixing up mendicancy and charity with labour—a system of persons partly obtaining support by labour and partly relief from the public purse; and if we were at once to adopt this system, I certainly do think that not only would those evils take place in Ireland that existed in England, but I believe that those evils would be very much greater, and that out-door relief in Ireland would absorb a much greater part of the profits of the land. (*Hear, hear.*) I am confirmed in this opinion by a report which I lately received containing resolutions bearing very much on this subject. It is a report from the Mendicity Institution of Dublin. They "declare that they do not think it wise to administer out-door relief to any person not labouring in the Institution itself." I will next come to the question whether, if we adopt the present system of workhouse, that system of workhouse can be rendered effectual to any purpose. There is one objection to them stated on this ground, and it is urged very strongly by the commissioners. I know it was felt very strongly by some individuals in that commission that the workhouses would not be safe—that there would be too much violence—that there would be such an indisposition to the restraints that those restraints could not be enforced. Mr. Nicholls, for the purpose of establishing this fact, made a full inquiry into all the various houses of industry, the mendicity institution, and the other institutions that exist in Ireland, and he says that the con-

duct of those persons in these institutions gave no reason to apprehend anything of the sort. He observed that in some of these houses of industry they have carried the system of restraint farther than in some of the old English workhouses; they have established the separation of the sexes and of the members of families, such as were established in the new union workhouses in England; and he did not find any regulation proposed to be made which did not now exist; on the contrary, every regulation is submitted to by the inmates of those houses of industry. I should think, therefore, as far as the question of settlement is concerned, there need not be any fear that there will be any violence used, or that we cannot protect the workhouses in Ireland as well and as securely as in England, for the object of obtaining the result we desire, of maintaining good order and industry in those houses. (*Hear, hear.*) The next difficulty, or rather another objection, has been stated, which lies at the bottom of the whole question. It is, whether this species of relief will not be so much sought after that the workhouses will be altogether crowded with applicants, and that there will be no means of affording relief to those who will come in such numbers to ask to be supported in the workhouses. But, sir, while I am ready to admit that that portion of the population which consists of persons decrepid and infirm will seek refuge in workhouses, it is in my opinion, very doubtful that any person who can obtain any sort of subsistence by his individual labour will crowd into the workhouses, where they will be subject to confinement and labour. The evidence goes to show that the objection which has been taken to workhouses in England cannot be taken as a test in Ireland; and nothing is more unlikely than that labourers who can obtain any sort of employment, or who have any other means of livelihood than by confinement within workhouses, will crowd into the workhouse either because the quality of the food or the habitation is very much superior. (*Hear, hear.*) It remains to be considered how far a law so constituted can be carried into effect. And on this part of the subject Mr. Nicholls has made various suggestions, to which I shall shortly advert, as containing the plan which he proposes to adopt on this subject. In the first place, with respect to the mode of administering relief, and the question of vagrancy. To every destitute and decrepid person the authorities having the superintendence of the administration of relief shall order relief to be given; that is to say, we do not propose to give them an absolute right, which in fact I do not think exists in England; we do not propose to give an absolute right to destitute and decrepid persons to secure relief in the workhouses. The reasons for this are, that not only would it be found difficult to create workhouses, and very unsafe to establish at once, in the whole of Ireland, that every person should be at once relieved, but there is also the difficulty of introducing a sound general principle of relief at once into the country. We do not therefore propose to establish at first more than four or five, or ten or fifteen, workhouses in Ireland. If we say that all persons in Ireland shall be allowed to have relief in these workhouses, then these workhouses will certainly be overflowed in the beginning, and the experiment may be said to have failed, when in fact it had only failed because it was not established throughout the whole of the country, but only in a portion. It is impossible to have evidence of the true working of the system until the whole is hereafter established; and in order to give effect to it, it must afford relief to all that require it. But then it may be said, and it has been very much insisted upon, that the way of preventing such numbers from flocking into the workhouses is to establish the law of settlement, and to say that a residence of three years in the district, or some other qualification, should be established, by which certain persons only should be entitled to relief. But, sir, on reflecting on the course of legislation that has been pursued in England, I have not made up my mind to propose any regular law of settlement in Ireland. (*Loud cries of "Hear, hear."*) I am quite convinced that the law of settlement is one of the greatest evils of the poor-laws of England. It circumscribes the market for industry, it

confines it, owing to divisions in parishes, in many cases to a small extent of country: it confines the market for industry to a very great and injurious extent. (*Hear, hear.*) It likewise led to immense litigation; and any person who had attended the quarter sessions and seen the disputes that arise there between one parish and another as to whether a person had been hired for a year and a day, whether he had been ordered to go home on the day before the expiration of that term, so as to destroy the settlement, or whether he had served a full year and a day, and various other similar questions—any person who had attended to this litigation and those disputes, will not have any wish that I should in this bill introduce the question of settlement. (*Hear, hear.*) If I were to introduce the question of settlement I think it would have these two consequences—one because we cannot immediately say that we will give relief, or indirectly a claim to relief at all to the destitute poor of Ireland; neither can we say, in the second place, what is certainly greatly to be desired, that we will at once prohibit altogether and put an end to vagrancy. When the whole of the workhouses are in operation, and when we are enabled to relieve at them all such as are fairly entitled to have relief in the workhouses, then you may say we will not permit vagrancy. First, then, to all destitute persons who seek nothing but subsistence that subsistence we give, and tell them that we will not allow them to disturb the peace and order of society by seeking subsistence by other means. But until you can say this it is not just altogether to prohibit vagrancy, and I therefore do not propose to prohibit persons seeking alms, if they can show that they have been to the workhouse or have applied to the guardians of the union and have been refused relief. This, I think, is a necessary step in the transition from one state to another. If the scheme succeeds we will be hereafter and finally able to prohibit vagrancy. The next question that arises is that with respect to the local machinery. I propose, with regard to this point, that there shall be a board of guardians, to be elected once a year, as in England. I propose that the county cess payers shall have the first election, and afterwards, the rate being imposed, any person properly described as a rate-payer shall have the power of voting in the election of the board of guardians. Mr. Nicholls has entered very minutely into the question whether or not we ought to have *ex-officio* guardians in the same manner as in England. The opinion I have come to is, that it is not advisable to introduce a similar provision. (*Hear, hear.*) In the first place, by the proportion which the *ex-officio* guardians bear to the number elected the character of the board of guardians is altogether destroyed. I therefore propose that there shall be a smaller number of *ex-officio* guardians, and that they shall not exceed one-third of the number of elected guardians. Mr. Nicholls has likewise examined another question, viz., whether clergymen should be admitted as members of the board of guardians? He states, and, as I think, truly, that you cannot have the ministers of one profession without the ministers of the other; and, in the present state of Ireland, the presence of different ministers of religion on the board of guardians might raise many questions of dispute; and I think it would be better if the board of guardians were confined altogether to laymen (*cheers*); and from clergymen of all denominations, from Protestants, Roman Catholics, and Presbyterians, he had received assurances of their willingness and anxiety to cooperate with the board, while some of them stated that they would rather be in the position of mediators between the board of guardians and the destitute poor, between the administrators of the law and those whom it would affect, where their exertions would be more efficacious in reconciling the poor to the law, and to those who would be exposed to their angry denunciations. I do think that for these reasons it were better that they should not be members of the board, but rather remain in that position in which they would be better enabled to use all fair argument in favour of the law than if they aided in its administration. (*Hear, hear.*) Now, sir, with respect to the question of rating, it is proposed that the board of guardians being once constituted, and under the direction of the commissioners whom I shall

afterwards describe, shall impose rates according to the net annual value of the hereditament. The question then arises, and it will be found fully treated by the poor-law commissioners, how much of this rate shall be imposed on the owner, and how much on the occupier? It is proposed by the bill which I hope to be allowed to introduce, that of the full net annual value taken from the tenant, one-half shall be paid by the tenant and the other half of the rate by the owner of the land, (*hear, hear, hear*); that this provision shall be carried through in all gradations, and that when there are many tenants holding, some under others, such tenant who is the lowest occupier shall deduct one-half, and the person to whom he pays it shall have the power of deducting a certain proportion of the half as rate, and shall pay the rate which he received from the occupier. So that, in point of fact, all owners liable to be rated, and paying a sufficient amount, shall be entitled to vote for the board of guardians. But with respect to others who hold property under 5l, it is proposed that property of the annual value of 5l shall not be liable to the rate, and shall not have the power of voting for the board of guardians. It is proposed likewise, according to the report, that those owners and occupiers shall have a plurality of votes in cases where the property exceeds a certain amount. With respect to the other questions which are treated of in the English poor-laws, it is not necessary in any poor-law for Ireland to introduce provisions on these subjects. For instance, bastardy need not be introduced, and apprenticeship is not proposed to be introduced, as in the law relating to England. With respect to the cases of the Mendicity Institution and other charitable institutions it is proposed that they shall be under the direction of the commissioners, who are to have the conduct and management of the whole administration of the law. With respect to the commissioners, I think that the safest manner of introducing such a law as I have described is the simple machinery which has been found so advantageous in England, and through the aid of persons fully acquainted with the principles of the law of England, and who have been employed in carrying it into operation. We therefore propose that, instead of forming a separate commission for Ireland, the poor-law commissioners for England shall have the power of entrusting to one or two of the commissioners, and if there is only one, to any of the assistant-commissioners, the power of sitting in Ireland as a board of guardians, in order to carry the law into operation there. It is proposed that in case it should be necessary to add to the strength of the present board of commissioners, if the present number shall not be found equal to the task, then the board shall have the power of adding one commissioner, thus making four. When there are four commissioners there will be found very probably one or two in Ireland and the others in England. I think this a better mode of proceeding than by establishing a new board of guardians. (*Hear, hear, hear.*) It is far safer that we should have persons already intimately acquainted with the operation of the law. (*Hear, hear.*) It is far better that they should have the power of communicating from time to time with England, because if we establish a separate board of commissioners in Ireland, a totally separate board, we shall probably, in the course of a few years, find the commissioners of England and Ireland acting upon totally different principles. According to the testimony of the gentleman at the head of the commission in England, he believes that three commissioners only will be able to conduct all the operations required both here and in Ireland. These commissioners will be entrusted with the power of putting the law into operation from time to time, according as they may see opportunity, in the different districts which they may think most favourable, and then they would proceed to other districts. They would form unions, either of parishes or of any other divisions, or, without attending to the present divisions, they may form unions, and having formed an union they will proceed to adapt any building that may be standing for the purpose of a workhouse, or they may build a new workhouse if necessary. There is a considerable difference of opinion between some of the persons who have considered this subject with respect to the size of the workhouses and

the unions. A gentleman who has published a pamphlet on the subject, written with very great talent, proposed that there should be 500 unions, and that the number of inmates in the workhouses should be limited to 200 in each workhouse. Mr. Nicholls proposes that the unions should be more extensive, that there should not be above 100 unions, and that each should be capable of containing 800 inmates. This calculation is made according to the circuits of Kent, Sussex, Oxford, and Bath. The amount of pauperism in Suffolk is one per cent. of the population. I can mention an instance in East Kent of a place where the able-bodied persons are 16,000, but there are not more than 24 in the workhouse. But suppose in Ireland the workhouses are to be fully occupied, Mr. Nicholls calculates that the whole expense for each person, including lodging, fuel, clothing, and diet, is 1s 6d per week. We have calculations made by various persons, and several calculations made by order of the poor-law commissioners, and the calculation of the expense of the workhouses in England by Dr. Way, and they all come to very much the same conclusion on the subject, viz., that 1s 6d per week is quite sufficient. If, then, you take 100 unions, the whole expense will be 312,000*l*; if you occupy only three-fourths, the expense will be 250,000*l*; and if only one-half, the expense will be 208,000*l*. Of course, as an original outlay, we must calculate the expense of workhouses at 700,000*l*. This would be the amount of the whole expense according to this plan. But, sir, while I consider that this plan is one of great importance, while I consider that it will in many respects improve the condition of the people of Ireland, while I consider that it will have many collateral advantages, as, for instance, accustoming the people to see examples of cleanliness and regularity, order and peace in the workhouses, and likewise, if the board of guardians are well formed, of seeing the different classes of the people acting together with cordiality and confidence, from the magistrates to the lowest of the rate-payers; while I calculate that this plan will have these advantages, I must say that to suppose that merely by machinery of this sort the people are to be saved at once from the state of destitution in which they now are, is too unreasonable to be supposed. In order to do this, I think, we must look forward to having the means of employment in Ireland, and we must look forward to having some vent in emigration, in order to relieve the country during her state of transition. Let it not be supposed that I believe, when I speak of emigration, that the present eight millions of inhabitants living in Ireland may not be very well sustained, and sustained with good and sufficient means by the soil of Ireland (*hear, hear, hear*); but I do believe that hitherto, with the means of so doing, a practice has prevailed, and still prevails, which will render it unlikely that this operation should have a successful result without some collateral sources for easing the country of her superabundant labour. As to the nature of the public works to be engaged upon, this is a point which I will not discuss now. It appears to me that there are various means open for the application of the labour of the poorer classes which might lead to the happiest result; but at the same time they should be adopted with great judgment and sound discretion. I think that with care and good judgment we may find materials for public works of such a nature, which, whilst they serve the temporary means of employing the time of the indigent, may be the means of opening new sources of industry, and for the profitable investment of capital in Ireland. The opening of improved communications between different districts, for instance, and the improving of bogs and ditches, are subjects well worthy of the application of labour and the investment of capital. This, however, as I said before, is a branch of the subject upon which I will not enter at present. It may be remarked that there is no great quantity of capital in Ireland available for such purposes as I have mentioned—but it should be recollected that, if we provide means by which a feeling of security, which does not exist at present, may be promoted amongst the owners of property, capital will immediately begin to flow in for investment in that way. (*Hear, hear.*) I have now to

say a few words in reference to emigration, in connection with the subject before the House. I know there are some who entertain notions upon this subject far beyond those which I am inclined to adopt, in favour of an enlarged system of emigration. It is a scheme entertained by some that one or two millions of our poor population might be exported to our colonies, and immediately find means of support in the new field of employment there opened to them. Now, putting aside all other difficulties which may be in the way of this desired result, and viewing the attempt merely in respect to the effect of such a proceeding upon the colonists, I think that the ferment created amongst them would be so great as to throw hopeless impediments in the way. It would be at once supposed by them that we were sending in amongst them a vast quantity of our useless population; paupers, who conferred no benefit on the country they were exported from, and, therefore, as they would argue, likely to prove an evil, instead of a source of benefit and productiveness to the new soil in which they were about to be placed. I know that there is a very great feeling of this kind already prevalent in our colonies, and in some even it has been thought desirable to exercise a sort of control as to the class of emigrants which should be admitted. It is a plan which has recently recommended itself to the Colonial-office, and which I hope will be persevered in, not to give large tracts of land indiscriminately to parties proposing to emigrate, at the imminent risk of their not being properly cultivated, and the parties themselves not being benefited by their possession; but to sell the land at what might be considered a fair and good price, to persons who, by showing themselves ready to advance a little money upon it, gave the best possible earnest of their intention and ability to improve and render it productive. (*Hear.*) In one colony alone, that of New South Wales, the sale of lands in this way, during the past year, has amounted to 100,000— and this sum might be employed with success in the conveyance of emigrants. I am aware, also, that a notion used to be prevalent that persons sent out in this way from amongst the poorer classes of Irish, were not of a description to be very desirable or useful to employers; but I am convinced that this feeling of prejudice or jealousy will not long interfere in the way of their employment, when it is found that there are many emigrants from Ireland willing and able to cultivate the lands of those who may hire them. (*Hear, hear.*) With regard to this subject I may state, therefore, that it will be proposed that there shall be an emigration station at the different seaports of Ireland, and that the persons proposing to emigrate, having raised a sufficient sum for that purpose, should inform the agent, who would send them to the seaport, where a ship, to be provided by the agent, should be ready to convey them. The government would pay the expenses of the agent, and also provide some proper officer for the command of them. By means of these precautions the colonists will be certified that the persons brought amongst them are proper persons for the purpose, and not merely paupers driven away to prevent them from starving in their native land. This is a plan which, if adopted, will of course, not contemplate any vast quantity of persons being sent away together; but it will at the same time afford a vent by which a redundant population—and particularly those who cannot find adequate employment at home—may seek it with facility elsewhere. (*Hear, hear.*) In establishing a system of poor-laws for Ireland, it appears to me that we must look upon these two subjects—public works and emigration—as means for co-operating with, and perfecting any, such an enactment. We should look also to the general improvement which, we are informed on all hands, is going on in Ireland, and we shall find much to hope for in the accomplishment of these objects. If, on the other hand, the whole state and condition of the country were going backward—if the whole revenues of the country were diminishing—there would then, indeed, be some difficulty in such a plan as that I now suggest; but considering, as I do, the whole country to be in the way of improvement, I think there is much to hope for from the plan, and every reason for its

adoption. It is proper, however, that the House should understand that what I have stated in regard to public works and emigration bears no direct reference to the measure which I now hope to introduce. These subjects form no part of my present object, which is strictly to carry a poor-law act for Ireland; they are subjects, therefore, which I merely touch upon now, as worthy of consideration as future resources, in co-operation with the measure I now propose. I would observe also, that I do not consider that these are branches of the subject in which the poor-law guardians could properly be employed; I do not think it would be safe to entrust them with the management of public works and emigration, in addition to the labour and duties of their immediate department, although at the same time I think they may be made very useful in diffusing information on the subject. There is one other question collateral to this matter which, before I sit down, I wish very briefly to touch upon. The poor-law commissioners for England, in the end of their report, make use of the following observations:—"It will be observed that the measures which we have suggested are intended to produce rather negative than positive effects; rather to remove the debasing influences to which a large portion of the labouring population is now subject, than to afford new means of prosperity and virtue. We are perfectly aware, that, for the general diffusion of right principles and habits we are to look, not so much to any economic arrangement and regulations, as to the influence of a moral and religious education; and important evidence on the subject will be found throughout our appendix. But one great advantage of any measure which shall remove or diminish the evils of the present system is, that it will in the same degree remove the obstacles which now impede the progress of instruction and intercept its results, and will afford a great scope to the operation of every instrument which may be employed for elevating the intellectual and moral condition of the poorer classes. We believe that if the funds now destined to the purposes of education, many of which are applied in a manner unsuited to the present wants of society, were wisely and economically employed, they would be sufficient to give all the assistance which can be prudently afforded by the state. As the subject is not within our commission we will not dwell on it further, and we have ventured on these few remarks only for the purpose of recording our conviction that as soon as a good administration of the poor-laws shall have rendered further improvement possible, the most important duty of the legislature is to take measures to promote the religious and moral education of the labouring classes." (*Hear.*) These are the words with which the Bishop of London, the Bishop of Chester, and Mr. Sturges Bourne conclude their valuable observations on the poor-laws of England and Wales; and if the remark is true in regard to England, it is doubly so in my opinion in respect to Ireland. (*Hear, hear.*) I do not wish to enter now upon disputed points connected with this subject, but I have always heard it admitted, even by those who disapprove in general of the present system of national education pursued in Ireland, that it is proper and expedient that the Roman Catholics of Ireland should be educated; and whatever means are to be adopted for so doing, I think it should be such a system of education that the great mass of the people may look to it for improvement and instruction. (*Hear, hear.*) In administering poor-laws to Ireland Parliament should keep this in view, that whatever is good for the moral condition of that country they should endeavour to promote, to extend, and to mature. (*Cheers.*) Not only should we employ ourselves in relieving the indigent, in repressing outrage, and in establishing a feeling of general confidence in rich and poor by so doing, but we should endeavour also to sow the future seeds of virtuous habits, and heighten the character of the poorer classes of Ireland. We should endeavour to give them that wholesome education which will enable them to do their duty to their God and to man; which shall furnish them with motives and incitements to do so; which shall eradicate and destroy the false notions and views of morality which they had formerly entertained, as respects their

state as subjects to the state, and as responsible and immortal creatures. (*Cheers.*) Provided we are all agreed upon the advantages of such an education, and that all should have the benefit of it, let us endeavour to afford it by such means as shall not interfere with their religious opinions. (*Hear, hear.*) I shall conclude, therefore, by observing that whilst I look upon the law which I now propose to introduce as one likely to effect very great benefits for Ireland, I look still more strongly hereafter to the fruits of such a system of legislation as that I have briefly hinted at; and I am confident that legislators who shall accomplish such good for Ireland will receive the reward their own good opinion, and the good opinion of the whole of the inhabitants of that country. (*The noble lord sat down amidst loud cheers from both sides of the House.*)

Sir ROBERT PEELE said it was exceedingly agreeable to discuss a question connected with the best interests of Ireland in which there was no party feeling present. He thought the House and the country were under great obligations to his Majesty's Government for making a definite proposal. So much time, indeed, had been expended in inquiry into the subject, that a proposal for any new inquiry would be tantamount to the admission that that inquiry was of no avail, and that the prosecution of a scheme of poor-laws for Ireland was hopeless. He believed that the extent of public feeling with respect to the justice and expediency of introducing a system of poor-laws into Ireland, without entailing upon them the evils which had pervaded our own system, but introducing a modified code, was so strong, that it was impossible for the legislature to refuse to consider the question. He thought, therefore, that they were bound to labour for this purpose. At the same time, if they did feel an interest, as he believed all did, in the welfare of Ireland, they were equally bound to take every precaution that, in acting on a principle of benevolence, they should not visit Ireland with the grievances which they had originally suffered from the former system of poor-laws in this country. The noble lord (Lord John Russell) had referred to those measures which he considered auxiliary to the introduction of a system of poor-laws in Ireland, and from which he anticipated considerable aid; such, for instance, as the affording facilities to emigration, and the undertaking of public works by means advanced from the public funds, for the purpose of creating employment for the able-bodied poor. He (Sir R. Peel) was bound to say that he thought they ought not to be too sanguine in their expectations of relief to be obtained from these sources. He entirely concurred with the noble lord in the opinion that every facility ought to be given to voluntary emigration; but, at the same time, he thought it of the utmost importance that the disposal of lands in the colonies should be put on a totally new footing; and that the Government ought not so much to seek a revenue from the disposal of those lands as to enable parties disposed to purchase to do so on very reasonable terms. (*Hear, hear, hear.*) In the next place, he thought that considering that the lands to be disposed of were situated within some particular colony, the first and chief object the Government should have in view should be the benefit of that colony. When that was secured, they might adopt any measure that seemed most expedient or most practicable to produce improvement at home. But he very much doubted whether any benefit derived from the best conducted system of emigration would materially aid in the great object of finding employment for the poor of Ireland, or of diminishing in any sensible degree the excess of the supply over the demand for labour. The honourable and learned gentleman, the member for Dublin, had asked in the course of his speech why the Government, in the case of Ireland, did not follow the example of the United States. "See," said the hon. and learned gentleman, "how widely extensive and wonderfully beneficial is the system of emigration acted upon in the United States of America." No doubt many and great benefits resulted from the system in that country; but it must never be forgotten that the question of emigration was here vastly different to what it was in America. There the emigration consisted only of a removal from one part of a great continent to another; here no emigration could take place except by a long passage

over sea, attended with many expenses, much inconvenience, and the depressing notion of a complete separation and alienation from the land of one's fathers. Observe, too, in our colonies the difference of language, manners, climate, and quality of the soil. All these afforded, in England and Ireland, obstructions to extensive emigration—obstructions not known in the United States. At the same time he thought that every encouragement should be given to voluntary emigration (*hear, hear*); he did not believe that any forced emigration would be found of service. (*Hear, hear.*) Forced emigration to be advantageous, could only be applied on this principle—that no man should obtain relief or assistance unless he consented to leave his country and to settle in one of the colonies. (*Hear, hear.*) He did not think that a fit principle to be adopted. At the same time he entirely concurred with those who were for giving every facility to voluntary emigration. (*Hear, hear.*) He came next to the subject of public works. It was customary for them all in that House to hail with the utmost satisfaction any proposal for the undertaking of public works in Ireland; and yet the hon. gentleman who spoke so much in favour of public works was one of those who, in the course of the same speech, would protest against providing in any way for the relief of the poor by the introducing of a system of poor-laws. In both cases what was the main principle involved? The principle of an interference with the natural demand for labour (*hear, hear*)—the principle of taking money out of a man's pocket for the purpose of employing it in a manner and for objects in which he felt no interest, instead of leaving it in his pocket to be employed in such a manner as to him should seem to be most advantageous, and for objects in which he felt a direct interest. He (Sir Robert Peel), therefore, was not much disposed to vote millions of the public money for the mere purpose of giving employment in public works, because in a tranquil country, and in a well-organized state of society, he believed all the employment that could be usefully applied would be given by means of private enterprise and exertion. At the same time, if it could be shown that by the employment of public money in public works the foundation of great public improvements would be laid, which could never be obtained without it, then he admitted that a case would be made out for the interference of the Government, and for taxing the people to give employment to the poor. But he was strongly of opinion that public works, undertaken only for the purpose of affording temporary relief to a people suffering from general want of employment, tended only to aggravate the evil they were intended to obviate. It was, besides, unfair to the people employed, because it held out to them that the employment would be permanent, while it was only intended that it should be temporary. (*Hear, hear, hear.*) Upon the question of public works there were always two important points to be considered—first, that the work proposed to be undertaken could not be accomplished by individual enterprise—second, that great public benefit would be derived from it. (*Hear, hear.*) Any aid that the noble lord (Lord John Russell) expected to derive from the undertaking of public works ought to rest upon those considerations. With respect to the measure at large, as proposed to be introduced by the noble lord, he should be sorry to say a word that could imply an objection to it, because, upon the first stage of a measure as important as any ever submitted to Parliament as regarded its ultimate results on the interest and happiness of Ireland, nothing he conceived could be so unwise, perhaps so unpardonable, as for any man to pledge himself precipitately as to the course he would pursue. (*Hear, hear.*) If, therefore, he said a word upon the subject on that occasion, he trusted the noble lord and the Government would believe that it was not with the slightest hostility against them or remotest disposition to oppose the measure, but merely as a friend having every wish to facilitate the carrying of a measure of the kind, and to make it in every respect as perfect as possible. (*Hear, hear.*) The hon. and learned gentlemen the member for Kilkenny (Mr. O'Connell) had stated that the legislature had now no option upon the subject—that having once been introduced, the measure must of necessity be carried. He

(Sir Robert Peel) certainly thought that the legislature was bound to consider the question of poor-laws for Ireland; but if he were told because the matter had been broached, that therefore it must at once be proceeded with, and that the exercise of no discretion was to be left to the House, he begged to reply, that he totally dissented from that doctrine. (*Hear, hear.*) He did not believe that by the mere proposal of the measure any such expectation of undoubted relief would be excited in the minds of the people of Ireland as to take from the legislature all discretion upon the subject. (*Hear, hear.*) A part of the noble lord's proposal was the building of workhouses. If a hundred workhouses were built, he (Sir Robert Peel) begged to ask what would be the average area of square miles over which each district in which such workhouse was situated would extend?

Lord J. RUSSELL: Twenty miles square.

Sir R. PEEL resumed: That would comprise a space of four hundred square miles. Then again, did the noble lord propose that one portion of a family seeking relief should be admitted into the workhouse, and that other portions should be permitted to work, or beg, or do as they pleased; or, as a condition to relief, must the whole of the family be admitted at once?

Lord J. RUSSELL; It is proposed that no relief shall be afforded to one member of a family unless the whole be at the same time admitted to the workhouse.

Sir ROBERT PEEL thought the noble lord would find that that system would not adapt itself to the other provisions of the bill. This proposition, of course, was founded on the success which was supposed to have attended the workhouse system in England. He felt that in the present condition of Ireland there was no time for delay; but he thought it much to be regretted that greater experience of the practical working of the system in England had not been obtained. As regarded the introduction of poor-laws into Ireland, too, it must be remembered that the situation of that country, as compared with England, was widely different. England was a country which had been subject to a system of poor-laws for 300 years, in the course of which time many grievous abuses had crept in, and much difficulty had existed in removing them. Ireland was a country in which as yet no system of poor-laws had ever existed. It was inferred from the partial experience of the last two years that the new workhouse system had worked well in England; but he (Sir Robert Peel) did not think the last two years a fair test by which to judge of the operation of the system. During the whole of that time there had been a great demand for labour in consequence of the great works undertaken in this country by the enterprise of private individuals. The system, therefore, had come into operation under very great advantages (*hear!*). The noble lord stated that he would make no distinction in Ireland between claims that arose from impotency and those which arose from destitution, and he added that he thought no valid distinction could be drawn between the two. He (Sir R. Peel) was willing to give the point every consideration; but, speaking from the present impression of his mind, he must say that he thought there was a most material distinction to be drawn between claims arising from lameness, blindness, disease, and extreme old age, where it was evident there were few opportunities of fraud, and claims arising from destitution, which in many cases might be real, but in others might be feigned, or the result of indolence or improvidence. If the system of an extensive dispensary were established, at which the blind, the lame, and the extremely old should be the only claimants for relief, there would be no risk of false claims; and any system adopted in Ireland ought undoubtedly to afford instant and substantial relief to all that class of persons. But the moment the claims of the able-bodied man were admitted on account of destitution, from inability to find work, from that instant all test was abandoned by which to ascertain whether the claims were valid or not. The noble lord (Lord John Russell) was very confident that the workhouse system would afford an effectual check to false claims; and upon that point he had quoted the testimony and opinion of Mr. Nicholls. He (Sir Robert Peel) was as fully disposed as the noble lord to attach great weight

to the opinion of that gentleman; but at the same time he thought his experience of the working of the English bill must be too brief to enable him to speak with any certainty as to what the probable operation of a similar system would be in Ireland. But consider what these workhouses would be in the centre of an area of 400 square miles. The advantage of the workhouse system in England was, that it afforded an immediate test of the validity of the claimants. How, embracing so vast a district, could it afford a similar test in Ireland? He feared, too, if the workhouses should become popular in Ireland, that those who lived in the immediate neighbourhood would have the prior claim, so as to prevent those who lived at the greater distance of ten or twenty miles, from any chance of admission at all. Therefore if a rigid law were laid down that no relief should be given except an admission to the workhouse, he was afraid the remedy proposed would be found in practice to be a very partial one. The noble lord had stated that all those who could not obtain relief within the workhouses would be at liberty to wander about and beg. Was it impossible—had the government determined in their own thoughts upon the impossibility of mixing up with the workhouse system some system of domiciliary relief? (*Hear, hear!*) The great disadvantage of the workhouse system was its inflexibility. Might not that disadvantage be obviated in some degree by the establishment of a system of domiciliary relief combined with it? As he had stated before he wished to give this measure his cordial support, and he should undoubtedly do so, if, in the course of the further discussions upon it, he should feel convinced that the workhouse system was inseparable from the introduction of poor-laws into Ireland. All that he was afraid of was, that by the rigid rule of excluding every claim to relief unless administered within the walls of the workhouse, and of allowing vagrancy to be sanctioned by the law, very little practical good would be effected. The noble lord stated that the workhouses would not be filled, because the natural affection of the Irish people would induce them to support their poorer and more destitute relatives. In that case, he (Sir Robert Peel) thought they would not relieve the class of persons who stood most in need of it. If that feeling obtained generally in Ireland, and if this system were adopted, he feared that the pressure of charity would fall most heavily on those who were least capable of bearing it. But at that time, and in that early stage of the proceedings, he would not extend his observations. He gave every credit to the government for bringing the matter forward. (*Hear, hear, hear!*) As far as he was personally concerned, he was disposed in every way to labour toward, he would not say the literal adoption of the measure as it was then proposed to them, but towards the introduction of a sound system of poor-laws into Ireland, by which the suffering poor of that country might be relieved, without entailing upon them and upon the richer classes such heavy evils as had arisen in England from an indiscriminate application of relief. (*Hear, hear.*) With that feeling he should address himself to this measure with exactly the same zeal as if it had been introduced by his own friends (*cheers.*)

Lord STANLEY cordially agreed with the honourable gentleman who last addressed the House that it was an important question, and the all-important question as regarded Ireland, to adopt such measures as would compel the absentee proprietors who had estates in that country to take upon themselves—he would not say to supply by a pecuniary aid (for it would be impossible by any merely pecuniary assistance to remedy the evils resulting from the absence of the proprietors of estates)—the performance of such duties, and of giving such assistance, for which, in his conscience, he believed they were responsible. (*Hear, hear.*) He came forward to express his opinion on the subject as a landlord and as a proprietor of land in Ireland, necessarily at times liable to the name of an absentee; but it had been his earnest endeavour since he had been connected with property in Ireland to supply that duty which was incumbent on him (*hear*), and he could fairly say that he had never shrunk from the performance of that obliga-

tion which was imposed on him. He would at once say, disregarding any short-sighted view of the question, that with regard to this question he was perfectly ready to take his full share, as an Irish landlord, of the burden which it was proposed to impose on him. (*Hear, hear.*) The noble lord who had introduced the measure said that he had two objects in view; in the first place, giving the landlords an interest in the good management of their estates; and in the next place, which was the most important part of it, making such provision as would put a stop to the frightful system of vagrancy and mendicancy that prevailed in the country. With regard to the second of these points, it was impossible for any man having the least experience of Ireland to lessen the importance of that most general and far-spread pest of society in Ireland. (*Hear, hear.*) It was impossible to speak in terms too strong of the evils resulting from the state of vagrancy which prevailed generally throughout the country. With reference to the means to be adopted to get rid of this system was relief to be afforded without distinction in all cases of vagrancy, whether caused by idleness, or resulting from misfortune and circumstances over which the parties had no control. (*Hear, hear.*) The mischievous poison of the system had distilled evil itself into the bosom of society in Ireland; it had led to the most baneful consequences; it had engendered a system of utter disregard to consequences; it had removed the strongest checks to improvidence; it had thus tended more than anything else to impoverish and deteriorate the condition of the people; and therefore to get rid of an evil of such magnitude, if it were necessary to impose a tax—whether it amounted to half a million, a million, or even two millions—was a matter of little or no consequence. (*Hear, hear.*) On all occasions when mere abstract resolutions had been moved in that House similar to that which had been proposed that night, namely, that it was expedient that a poor-law should be introduced into Ireland, he had felt, whether sitting as a member of the government or on the opposite side of the House, that they were liable to objections on the ground of their vagueness, and at the same time pledging the House to principles which, at the time, were not fully felt and appreciated. He thought also that by pursuing this course they were creating expectations which could not be fulfilled, and they were exaggerating evils which ought not to be excited on such a question as this, and thus evil had been done when they were most anxious to do good. He admitted, however, that the circumstances of the case were altered, when there was a specific plan brought into view by the government, on its responsibility, and grounded on a mature consideration of the subject. (*Hear, hear.*) He, as a landlord, felt grateful to the government for having taken upon themselves the trouble and responsibility of introducing this important subject. (*Hear, hear.*) His noble friend (Lord John Russell) and his colleagues were fully sensible of the difficulties they had brought upon themselves by taking up the matter (*hear, hear, hear*); and he trusted that the subject would be followed out to a satisfactory termination. For his own part it would be his duty, as well as pleasure, to give all his exertions to carry out this measure, without pledging himself to all its details, to a successful result. (*Hear, hear.*) He had alluded to the state of vagrancy in Ireland, and was anxious to offer some observations on the subject to the House. It had been argued by gentlemen who spoke against allowing compulsory relief, that by doing so you would check the flow of private benevolence in Ireland. He would speak as an Englishman who had lived in Ireland, and had seen much of the people and country. He could say without hesitation, that he had seen instances of self-devotion on the part of the peasantry of that country which he was sure could not be met with elsewhere; he had repeatedly met with sacrifices, for the purposes of benevolence and charity, of all the little comforts they possessed without reflection or hesitation, which reflected the highest credit on the humblest classes in Ireland. (*Loud cries of "hear, hear, hear."*) They considered that unfortunate vagrants were entitled to command relief at their hands, and without hesitation they brought them to their own houses to share the same humble

shelter and food as the owner was enabled to afford to his family. (*Hear, hear.*) He would tell honourable members that this was not a rare occurrence in Ireland (*hear, hear*)—it was not a casual event, but it was a matter of daily and constant occurrence (*hear, hear*)—and he recollected that the persons who afforded this aid were themselves steeped to the lips in poverty. (*Hear, hear.*) Let the House suppose the case of a poor widow left deserted, with a large family, and surrounded with those who hardly knew how to get their bread from day to day, yet in such a district there could not be found a house in which the widow would not find a refuge—nay, more, he would venture to say that there was not a poor family who would refuse to charge themselves with a permanent share of expence towards the support of this family, and this even to an extent beyond their means. (*Hear, hear.*) Would he check this system of benevolence? He honoured too highly the benevolence thus manifested—he felt too much as a Christian the nature of the feelings from whence it emanated—to endeavour to check the sacred flow of it. (*Hear, hear.*) But looking at the matter as a statesman, regarding also the state of the country, and looking to the habits of the people, and recollecting also the necessity of engendering habits of foresight, he felt satisfied that the Legislature must not force on the poor peasantry of the country such a share of the charge of supporting those who were absolutely destitute. (*Hear, hear.*) High and exalted virtues undoubtedly they were; and the more high and exalted because unseen and unknown. (*Hear, hear.*) But, while admitting this, it was the duty of the House to recollect that the practice of those virtues produced in the minds of the population a sense that it was not necessary to look to the future, or to make provision beyond the present moment. No doubt this state of things resulted from feelings of a high origin, but if it were not checked by law it produced abuses in the law, and led to the existence of the greatest evils in the country. (*Hear, hear, hear.*) It led to the most pernicious system of imprudence in the habits of the peasantry, and it induced them to give away their last halfpenny, or potato, without knowing where they could supply their own wants and those of their families. (*Hear, hear.*) This overstrained and exaggerated character of benevolence arose from the peculiar circumstances of the country; for they could not tell they might not themselves fall into this state of destitution. He saw in this the strongest reason not to strain those feelings, but by doing so the exercise of them might prove injurious to the social system. Therefore he was prepared to say, let us adopt some system of relief for the utterly destitute. (*Hear, hear, hear.*) He contended that in such a state of things as at present existed in Ireland the state should interfere, and say to the struggling cottagers of Ireland, "You shall not share beyond your means; your richer neighbours shall also contribute their share towards the relief of the most destitute." (*Cheers.*) He agreed also with his Majesty's government, that the utterly destitute should alone be relieved. He was aware that the most exaggerated anticipations, as well as the most extravagant feelings of alarm, were held by different parties as to what would be the result of the adoption of poor-laws in Ireland. One party looked upon it as imposing a burden which would swallow up all the property in Ireland. It possibly might do so, if they did not look carefully to the operation of the working of the system. On the other hand, they were told that a system of poor-laws would at once lead to the investment of capital in Ireland, to the general employment of the poor, and to a higher rate of wages; it was the duty of that House to do all that could be done by legislation to promote these ends. (*Hear, hear, hear.*) He could not, however, help observing that these exaggerated feelings held on one hand and the other had been attended with the most injurious effects. He had no such strong feelings of anticipation as to its benefits; he participated in no such feelings of alarm as had been described. (*Hear, hear.*) He thought that much good might be effected by the adoption of a judicious and sound system. He was persuaded that the destitution to command relief must be absolute, entire, and hopeless—such destitution must be alone the limit of the

law. (*Hear, hear.*) They must on no account hold out expectations of relieving the man who with a few acres of land was distressed because he had agreed to pay an amount for rent which he was not able to pay. (*Hear, hear.*) The adoption of a plan by which relief would be afforded to this class would indeed be a confiscation of all the landed property in Ireland. Such a system would be as relief to the individual himself; it would not lead to a greater degree of providence for the future, but it would hold out a similar and even a stronger inducement than at present to this class to make the most improvident and absurd bargains; at the same time it would ruin the landlords, and make the conduct of the peasantry still more thoughtless than at present (*hear, hear!*). Now with respect to the dangers which they had to look to. The danger which resulted from the late poor-laws in England was, that there was a systematic laxity in their administration beyond all example, which produced scenes of evil of which all men were witnesses, and which necessarily led to the adoption of a check in their administration, which, by a gradual and a careful mode of proceeding, would no doubt lead to a great improvement. In Ireland, however, they had to proceed from opposite series of change. In this country it had been found necessary to contract as much as possible the system of relief; so in Ireland it was necessary to set out from the other end of the series, and they must make rules and regulations which they would be able to enlarge (*hear, hear!*). He said this not from any wish to take from the peasantry or pauper population of Ireland any advantage enjoyed by the pauper population of England. The House must see how far it was necessary to make restrictions in the one country in the system already in force, and how far they were enabled to relax in the other country (*hear, hear!*). In adopting, therefore, poor-laws for Ireland, care must be taken that they did not go on the opposite line to that which he had just alluded to. Thus they should have a narrow system of relief in the first instance, which could be enlarged afterwards. His noble friend proposed to limit relief to the workhouse system. In principle he was induced to agree with his noble friend; but he thought it necessary to see what this system should be. He did not think that any great inconvenience would result from having these large workhouses in large towns; but he did not think that this would be altogether the case in agricultural districts. In the first instance many persons might be induced to subject themselves to the confinement and restraint which necessarily existed in a workhouse, with a view of obtaining a sufficiency of food and clothing, but the feelings of restraint and confinement were so adverse to any thing like Irish feelings and habits, that if the workhouse was found to be a great check in England in inducing the poorer classes to depend on their own exertions instead of resorting to the parish, it would be found to be a still more powerful check in Ireland (*hear, hear!*). Those great inducements in the shape of good living, clothing, and lodging would not have near the same effect in Ireland as in England (*hear, hear!*). In speaking of a workhouse system, it is necessary to examine how the workhouses are to be distributed. He did not wish to trouble the House at such length; but when a great measure was introduced, in which no party feelings were involved on one side or the other, he thought that it would be advisable to throw out at once such suggestions as occurred to him as to any difficulties that might appear in the working of it. He confessed that he had doubts and hesitations as to some parts of the proposed plan, and therefore what he then stated were observations which he trusted would not be considered as binding upon him. His noble friend had told the House that one of the chief objects of the bill was the making provision for the relief of destitute vagrants. Unless they meant completely and decidedly to put a stop to and prevent vagrancy, they could not be successful in effecting their object. To attain this end it would be absolutely necessary that there should be workhouses within such a distance of each other that the infirm and aged could readily reach the workhouse without having to pass a great distance through the country (*hear, hear!*). If you do not get

rid of this system of vagrancy you do not get rid of the great evil which now exists in Ireland; and to effect this object it was absolutely necessary that the workhouses should not be at too great distances apart. If he understood his noble friend correctly, the workhouses were to be twenty miles apart; that was, that each workhouse should be in the centre of a square, the radius of which, if he might use the expression, was ten miles. He did not speak mathematically, but he believed that he was correct.

Lords J. RUSSELL and HOWICK severally made some observations across the table which were not audible.

Lord STANLEY proceeded to state that he believed that his noble friend had two objects in view in the erection of these large workhouses. By having them on a large scale, his noble friend believed that by a system of contract the paupers would be supported at a less expense, and, also, that the cost of superintendence would be diminished. But his noble friend had, at the same time, kept out of view what, in his (Lord Stanley's) opinion, could not but prove to be a great evil—he meant the difficulty of getting in Ireland proper persons to act on the board of guardians. His noble friend might reply that even by reducing the distance between the workhouses to five miles, they would still have to contend with the same difficulties in finding fit persons to act. But the difficulty was not diminished by increasing the size of the district; for it did not follow that because you could not get ten persons in half the distance, that you could get twenty persons in the proposed distance. His noble friend must be aware that the very extent of some of the unions in England was productive of a great deal of mischief. Some persons, the most proper to act as guardians of the poor, would not go out day after day and week after week to a considerable distance to attend the meetings of the board. This would more especially be the case in a country in a distracted state; and he was satisfied that in many parts of Ireland, on this ground, many gentlemen would decline going to a distance from their homes to attend board meetings. There were also different motives operating to induce gentlemen to take upon themselves these offices in the two countries. The object in England was to reduce a great burden, but in Ireland, by carrying out the proposed system, they would entail a great burden on themselves. He was satisfied that they would not get the persons of the same class in Ireland to attend, day after day, week after week, as was the case in England. He repeated, if the difficulty to procure the services of proper persons on the boards of guardians here was found to be great, it would be still more so in Ireland. He also was satisfied that the more they extended the size of each workhouse district the greater the difficulties that would be felt. He was of opinion that the proposed workhouse district was too large for the practical working of the system. It should also be recollected that there was a great want of a proper parochial machinery in Ireland, and therefore he thought that they would have to give greater power to the commissioners in Ireland than was given to them in England. There was another part of the plan with respect to which he wished to say a few words, and which was suggested to him by what had fallen from the noble lord. It was proposed that utter and entire destitution should be the only ground of relief. Did not this suppose as a corollary that entire destitution gave an absolute right to relief? How could they tell a man that he should not go a begging, and at the same time say that the case was not one of destitution, and relief, therefore, should not be given? Upon whom would they throw the responsibility to say who had and who had not a right to relief (*hear, hear!*)? His noble friend, he believed, went further, and said that destitution was the sole condition of relief. He said that he would give no absolute right, and the reason was, that he could not do so without having a law of settlement. He would not pledge himself upon the subject, but would wait to hear whether the government could show the possibility or practicability of introducing any measure—whether it gave to the pauper an absolute right, or not an absolute right, to relief—which should not carry with it the ne-

cessity of some law of settlement. Let them not shrink from the difficulty of the case. He knew it was a difficulty. His noble friend had said, "Look at the law of settlement in England, and see what trouble, what litigation, what expense it occasions; and therefore (said his noble friend) simply let us have no law of settlement at all." Suppose his noble friend were to be met with this sort of argument—"See what abuses have prevailed under the old poor-law system in this country; see what ruin in every direction it has occasioned; and therefore let us have no poor-law at all;" would it not be precisely the doctrine which his noble friend now advanced against the law of settlement? If the House recognized the principle that destitution should be the test of relief, and that that relief should be limited to the workhouse, and if they meant as a general measure that it should prevent vagrancy—vagrancy being the greatest evil in Ireland—then they must give to destitution an absolute right and claim upon some fund; and if they gave to destitution an absolute right and claim upon some fund, then they must by some law of settlement say upon what fund that claim should be. From this chain of reasoning he could not see how they could escape. How was it that his noble friend proposed to begin this system in Ireland? Why, by establishing at first fifteen workhouses in that country. Now it was admitted that there would be a great rush of paupers upon those fifteen workhouses, and that it would be impossible to resist their claims. But that was an argument in favour of a law of settlement, when they were about to give to paupers a claim throughout Ireland, the same as in England, upon every one of those workhouses. But if in Ireland the authorities should not choose to admit the paupers claiming, then, according to the proposition of his noble friend, those paupers should have a right of begging. See how, adopting, as it was proposed to do, the same law and the same administration in Ireland as in England, such a plan would operate. At present there was no poor law in Ireland; consequently from the coasts of Cumberland, Westmoreland, or the western coast of England, they could slip off any number of Irish paupers they thought proper, and turn them loose on Irish ground, and tell them to beg their way home. Was it intended by the noble lord that these should be thrown upon Belfast, Dublin, or Waterford, an absolute and compulsory, though not a legal, burden of this description; or to say to them, "Though there is a poor-law throughout Ireland, and an universal system of relief, yet these persons must be maintained by you in Dublin, Waterford, or Belfast, or else they must be allowed to beg their way through the country? Was that the way they did in England? If, then, they wished to introduce the same system of relief into Ireland as prevailed in England, they must carry the same system throughout. They must make the county of Dublin bear the same relation to the county of Lancaster, as the county of Cornwall or the county of York bore to it at the present moment. But this they could not do without establishing a law of settlement. Without a law of settlement, therefore, and without giving paupers an absolute title to relief, he could not see how it was practicable, that the present measure could prevail. He would not at the present moment enter into a consideration of the several very important questions of detail involved in this measure. He entirely agreed with his noble friend in the propriety and expediency of the provision for excluding clergymen of all denominations from the administration of these funds. Their interference might lead to heart-burnings, and to suspicions of partiality, if not to partiality itself; while it would to a great extent be mixing them up with a vast number of circumstances from which they had much better be excluded. They would then be better able to perform their proper functions, as a sort of mediator between the guardians and the paupers. It was perfectly consistent with their sacred office to advocate the claims of charity, but not to administer parochial or district relief. The question of rating was one of great importance, and to which he was aware the government had given very serious attention. He could not, however, say that he altogether agreed with them in the conclusion at which they had arrived. He should

have been most desirous of seeing a system introduced by which the poor-rates levy might have acted as an absolute and positive check upon that which he held to be one of the greatest evils of Ireland, as between landlord and tenant, namely, the exorbitant rents fixed upon, which one party never expected to receive, and which the other party knew he could never pay. He should have been glad to see the amount of rate taken and estimated upon the covenanted rent as between landlord and tenant. That would have acted, in his opinion, as a very important check to the evil that so greatly prevailed in Ireland. For now the landlord imposed a rent of 50s. an acre, knowing at the same time that he should never get 40s., but, trusting to what he could screw out of the tenant, willing to take everything if he could get it; while the poor tenant, from the great competition for land, undertook to give 50s., knowing also at the same time that he could not pay any such sum. Now, if they could introduce a system by which the amount fixed as the rent were made the basis of the amount of taxation—to which there could be no objection, that being the valuation imposed by the parties themselves—there would be at once a check upon the exorbitant avarice of the landlord, and also upon the improvident want of foresight on the part of the tenant in promising an amount of rent which he was not able to pay. He hoped it would not be impossible to introduce some such provision in the bill. It was also a question to be considered, when they came to the details of the bill, as to the amount to be charged upon the landlord, and the manner in which it was to be distributed among the landlord and tenants; and also as to the means by which they were to pay it—whether they should deduct it from the whole of the landlord's rent, or whether the amount charged upon the landlord should be first paid by the tenant and allowed as a part consideration of the rent—which he should think the most desirable course. But these were questions to be considered by them in committee, and discussed by them as members of the House of Commons, who, whatever their opinions might be upon theoretical questions, he hoped when they came to deal with a great question of this kind, concerning which there was but one sole and only interest on both sides of the House, would equally endeavour to carry it through perfectly by friendly argument, and by discussing it, warmly if necessary, but at the same time candidly; and by bowing to the opinion of the majority, and to expediency, when their mutual object was ascertained to be the same. He would say that was the course the House of Commons ought to pursue on a question of this kind. "That is (said the noble lord) the course which I mean to pursue, nay, in the name of every member on either side of the House, without distinction of party, may I not say that that is the course which *we* shall pursue?" (*Loud cheers.*) With regard to extending the right of relief not only to the impotent but to the able-bodied pauper, he confessed he himself saw no means by which they could draw a line of distinction between the two; limiting, as it was proposed to do, that relief altogether; at all events in the first instance, to that which should be given in workhouses, and workhouses alone. With no exaggerated expectations that this measure would produce unlimited prosperity in Ireland—with no exaggerated expectations that it would entirely relieve even partial, local, much less general distress—while, on the other hand, with no exaggerated apprehensions that it would endanger the rights of the landlord, he, as an Irish landowner, thanked his Majesty's government for having introduced the measure, and as an Irish landlord, he would give his aid to bring the measure to as perfect a conclusion as possible. He had omitted to mention one question, which was with respect to the number of vagrants. He hoped, in considering the question of destitution, his noble friend would make it understood that no person renting and occupying land should be considered in such a state of destitution as to give him a right to relief. (*Hear, hear.*) It had been said that there would be a great influx of paupers at particular times of the year in the workhouses. Undoubtedly this would be the case if they admitted this class of persons; because the small landholders at cer-

tain periods of the year suffer great distress, generally in the months of May, June, and July, between the consumption of one crop and the gathering of the other. Now if men though holding four or five acres of land, were at those periods to be considered in such a state of destitution (as was no doubt often actually the fact) as to entitle them to come into the workhouse, the workhouses would be inundated and overwhelmed, and the effect would be that every farthing so paid and expended would be paid into the pockets of the landlord. He did not wish to raise the rent of the Irish landlord, though he believed it was capable of being raised. First, it might be raised by superior cultivation, by a greater extension of the farms, by increased application of capital to those farms, and by a greater conversion of that class of the population who now depended partly upon letting four or five acres as landlords, and partly upon holding three or four acres themselves, into active labourers. He believed that if these changes could be introduced, the rents of Ireland, under a good system of poor-laws, were capable of being materially and honestly raised to the benefit of the landlord, but no less also to the benefit of the tenant. What he wanted to prevent was, the dishonest and fraudulent raising of rents; that system of nominally raising rents to an amount which was never intended by the landlords to be levied, but which was intended to screw down the tenantry, and to force from them the last penny their impoverished condition could spare. He thought that to a certain extent the measure introduced by his noble friend to night, might have the effect of mitigating this great prevailing evil; and whatever should have that effect would be an unmixed good. Feeling confident that the House would seek sedulously to guard the measure by such salutary provisions as should not allow it to impose an undue charge upon the property of Ireland, and believing also that it would not be attended with those dangers which some persons had anticipated from it, he should give it his cordial support, and in every stage of its progress lend the government his humble assistance, not, however, concealing any objections which he might conceive from time to time applicable to it. (*Cheers.*)

FAT CATTLE.—We have just seen two splendid animals of the Galloway breed, killed by our townsman Mr. Howat. They were fed by Mr. Marshall, Kirkcudbright, and bought by Mr. Howat in the Liverpool market, on terms as low as he could have got them for at Kirkcudbright. They will weigh about 70 stones, and are of rare quality. Nothing can show the caprice of the market more, than the fact that before these animals left Kirkcudbright, per steamer, as high a price was offered for them as they were bought for in the Liverpool market and brought to Dumfries per steamer by Mr. Howat. Mr. H. says he has two other bullocks coming from Liverpool as good as these. Let any man examine the two animals now hanging up, and he will be satisfied that the *true-bred* Galloway will feed most kindly and profitably.—*Dumfries Times.*

USE OF HUMAN BONES.—Many tons of human bones are every year sent from London to the north, where they are crushed in mills, contrived for the purpose, and used as manure. Yet, with all this clearance, the number of the dead increases in such frightful disproportion to the space which we allot for them, that the question has been started, whether a sexton may not refuse to admit iron coffins into a burial-place; because, by this means, the deceased take a fee simple in the ground, which was only granted for a term of years. A curious expedient has been found to answer at Shields and Sunderland. The ships which return to these ports with ballast were at a loss where to discharge it, and had of late years, been compelled to pay for the use of the ground on which they threw it out. The burial grounds were full: it was recollected that the ballast would be useful there, and accordingly it has been laid upon one layer of dead to such a depth that graves for a second time are now dug in the new soil.—*Architectural Magazine.*

THE NEW POOR LAW.

The Wellington (Somersetshire) Union saved £ s. d.
in the quarter ending 25th Dec., 1836. 228 14 11
The Taunton Union has saved from Mid-
summer to Christmas, 1836. 963 2 0½

The Chard, Yeovil, Langport, Williton, and Dalton Unions have all made corresponding savings, although called on by the boards to pay no more than four-fifths of their average expenditure for the last three years. Of the remaining one-fifth much less than half will suffice to pay the county rate and all the minor expenses to which parishes are liable, and therefore the savings are much greater than here represented, whilst the aged and virtuous poor are better provided for than at any former period. Still it cannot be denied the poor law amendment act has many enemies, among such however, chiefly, as have profited by their peculations, and who therefore cordially hate the scrutinizing eyes of the auditors before whom all parish expenditure is brought every quarter. There is not yet through the whole of West Somerset one union workhouse, in which there is either classification or labour; if without these essentials of the new system much good has already resulted, we may confidently anticipate far more beneficial results when the new houses are built, and the whole machinery put in motion.

THE NEW POOR LAW.—To prove how vain and unfounded are the fears of those who imagine that the new Workhouses are “Bastilles,” where the poor inhabitants are starved, we select from a multitude of testimonials to the contrary the following extract from a letter of Mr. George Stephen, a gentleman who has paid great attention to the subject, with reference to the state of the poor in the Workhouse of Great Bledlow, Buckinghamshire:—

“Three weeks ago, in company with a benefited clergyman of high character, I visited one of the workhouses in the Wycombe Union. We gave no notice of our intention, that we might have a better chance of correct observation. It is the Bledlow workhouse, appropriated to the reception of the aged and infirm of the union; we found the paupers just rising from their dinners; we examined minutely into every part of the domestic ceremony; we went through the dormitories, the infirmary, the kitchen, and the eating room; we examined and tasted the food; we inspected its quality and its quantity; we inquired into the habits and employment of the inmates; we investigated the discipline; and we both arrived at the same conclusion, that nothing could exceed the neatness, the cleanliness, the order, and (allowing for the difference of class as regards their habits of life) the apparent comfort of the whole establishment. The meat and bread were excellent; the beer was good table beer; the vegetables were well dressed; and that the whole was abundant was proved by the many fragments that remained.

“So easy was the discipline, that the severest punishment hitherto inflicted has been the deprivation of a dinner; and even that penalty has only been exacted in one or two instances for contumacy. The appearance of the paupers themselves was clean and cheerful.”

AGRICULTURAL REPORTS.

BIRMINGHAM, 1ST MONTH, 25TH, 1837.

In our review of the years 1831, 1832, 1833, 1834, and 1835 we had to notice a progressive reduction in the value of wheat: during the past year on the contrary, it advanced from 36s 5d, the average of 12th month (December) 1835, to 59s 11d, the rate for the same period in 1836; yet this rise is not relatively greater than in many of the leading European markets, and our prices are still 10s to 12s per quarter below New York. The crop of wheat in the southern and midland counties of England last harvest was undoubtedly a full average per acre, but we think the opinion is well founded, that this will not be sufficient, including the large stocks of old held by the growers, to supply the deficiency in the growth of Ireland, Scotland, and some of the northern counties of England, without a liberation of foreign, although the advance in price has materially lessened the consumption. There is literally no wheat in the granaries in this part of the country, the farmers being the only holders. It will be perceived on reference to the annexed tables, that the import of wheat from Ireland, was about 120,000 quarters in 1835 short of the previous year. It is calculated that 1836 was still less than 1835, and since harvest considerable shipments have been made from this country to Dublin, &c. It therefore does not seem probable that our stocks and crops are equal to these additional calls upon them, which will be felt the more in consequence of our having received no wheat or flour worth notice from British colonies during the last two years; though the money crisis may prevent any advance for awhile. Present price of English red 7s 2d to 7s 8d.—White 7s 6d to 8s per 62 lbs at Birmingham. No Irish on the market. Considerable shipments of wheat are still making from the Mediterranean to the United States, but they have nearly ceased for the present, from this country, Hamburg, &c.

Although prices have declined since the commencement of the season about 4s per quarter, we have no reason to suppose that our estimate of the barley crop at the time of harvest was too unfavourable, but the relatively high price, added to the decreased activity in our manufacturing districts (owing to the state of the money market) has much lessened the consumption, and still more the make of malt. It is now also understood that the stocks of old in the brewer's hands at autumn, were much greater than then supposed. Our barleys are of various qualities this year, a few samples being equal to the growth of 1835, but the greater part are more or less stained, or injured by the wet weather, and some quantity fit only for grinding. The average price of malting samples is about 8s per quarter higher than last year. The few cargoes of Devonshire and Cornish arrived at Gloucester this season were not fine, and the working complained of; whilst we never remember the Irish to have grown so badly, indeed it has been almost impossible to sell the best of it for malting purposes. Grinding qualities opened at 32s, advanced to 38s per 392lbs, and were at one time not to be had; this with the high price of all articles for feeding, caused a premature slaughter of pigs, &c., and it has since receded to 32s, at which rate only retail sales can be effected. It is now we consider the cheapest food for cattle, and we anticipate an improved demand before long. Oxfordshire malting sells from 41s to 43s, Devonshire and Cornish 39s to 41s.—Irish 36s to 38s per imperial quarter at Birmingham. Early in the season some old foreign of fine quality, sold at 44s to 46s here, and since at 41s to 42s, which is the present value of both old and new. The quantity of foreign which has arrived at Gloucester, is less than was expected; and what is now on the way, will, it is believed, go into bond to wait a lower duty.

Our import of Oats since harvest, until the last month

was very light, and the few which came early were fully equal to the average of last year; but recently the arrivals from Ireland have been very heavy, consisting almost entirely of secondary qualities, out of condition, with which description the market is glutted; and as few could be forced off ex-ship, our stocks are heavier in Gloucester than for some time past—yet fine dry ones are scarce; they are about 5s per qr higher than at this time last year; and though the difference in price has lessened their consumption for horses, they are in consequence of the failure of the Turnip crop, being used to some extent, for feeding sheep, &c.; and as the quantity of foreign yet liberated is trifling, we are still of opinion that a considerable further supply from abroad will be required before next harvest; and at the present prices, in many of the European ports, we consider them a safer article for investment than any other kind of foreign corn. Irish are offering from 23s to 28s per 312lbs, at Gloucester; English, from 24s to 32s per imperial quarter; Welsh, black and white, 24s to 26s per 312lbs, which is relatively lower than hay, or any other horse food.

Beans, for some months were extremely scarce and dear, ranging at the highest point, from 48s to 58s per qr; they have within the last few weeks receded about 4s per qr: and all descriptions are now plentiful. The condition of the new is much complained of; but some time back, when old were so difficult to procure, a good many were kiln-dried, and split for horses. The prices of this article abroad are too high to leave a fair prospect of remuneration to importers, the same remark applies to peas, the crop of which, in this country was very good; they have recently been abundant, and few wanted, nominal value for grinding, 16s 6d to 19s per 196lbs; boiling, 6s 6d to 7s 6d per imperial bushel at Birmingham.

Coarse flour, like all other articles for feeding, has been in great demand, and it advanced 10s per 280lbs in the whole.

By the following account of imports into Gloucester, since the opening of the canal, it will be seen that the increase in the quantity of most kinds of grain in 1836, is less than previous years, whilst oats exhibit a falling off.

Yrs.	Wheat.		Barley.	
	Foreign.	Irish.	Foreign.	Irish.
1828		qrs.		qrs.
1829		2,035		667
1830	23,849	10,926		2,599
1831	69,706	20,986	36	13,219
1832	1,871	30,870	1098	23,880
1833	600	32,144	275	24,990
1834		30,950		7,948
1835	623	28,573	549	15,544
1836	3,571	8,348	641	22,340
		12,635	7441	27,208

Yrs.	Oats.		Peas. Forgn.	Flour.	
	Foreign.	Irish.		Foreign.	Irish.
1828		qrs.		C.	q.
1829	492	12,561			425 0
1830	1981	19,888	269	7,532 2	6,279 2
1831	2521	39,868		4,326 1	4,744 2
1832		44,978			1,517 3
1833		61,687	61		3,172 0
1834		57,417			4,042 0
1835		76,959	546		17,560 0
1836	2665	108,319	3796		26,284 0
		104,919			

JOSEPH AND CHARLES STURGE.

4d to 6d per bushel lower than on the 31st ultimo; a reduction which has not been confined to this locality, most of the leading corn markets of the kingdom having suffered a similar depression. The Irish new wheats that have appeared, have, for the most part, been of inferior quality, shrivelled, soft, and scarcely sound; for such there has been scarcely any demand, and even the better descriptions have been difficult to dispose of—prices varying from 6s 9d to 8s 6d per 70 lbs. Good English old white is worth 9s 4d to 9s 9d, red 9s to 9s 3d, new red 8s 9d to 9s 3d, and the farmers in our district have latterly been obtaining for new white 9s 4d to 9s 9d per 70 lbs. Flour has seldom been more difficult to dispose of than during the past month, and the difficulty has recently been increased by the ordinary quality of some portion of the imports from Ireland; indeed, throughout the season, the manufacture of the inland millers has had a more decided preference than usual. The stocks both here and at Manchester have latterly been accumulating. The choicest English is held at 52s, the best brands of Irish are offering at 48s to 50s, down to 40s to 46s for ordinary and fair runs,—quotations which are fully 3s per 280 lbs below the currency noted on the 31st December.

The quality of the Irish oats (which have constituted seven-eighths of the supply) has been quite as bad as that of wheat; not one sample in twenty could be called fine, and few only would come under the denomination of fair; the market, however, being almost bare of old, and the importers being disposed to submit to low rates rather than store, most of the import has gone into consumption at prices varying from 3s 3d to 3s 11d; Welsh common, which are also chiefly soft and discoloured, have brought 3s 3d to 3s 6d, a few Scotch have sold at 3s 10d to 4s, and old are worth 3s 9d to 4s 3d per 45 lbs. The supply of oatmeal has exceeded the wants of the trade, and, although a few thousand loads have been stored on speculation, prices have receded 2s 6d to 3s per load; the best Irish is at this moment not worth more than 32s 6d per 240 lbs.

As we have before named nearly the whole of the month's import of barley has been from the English coast, and up to the last fourteen days a considerable proportion of the supply had found buyers at 42s to 47s per qr; the sale has since been dull, at 1s to 2s below these rates, making the decline since the 31st ult. fully 4s per qr. Grinding descriptions must also be noted 4d to 6d per bushel cheaper; a little Irish of inferior quality has been sold at 4s to 4s 4d, the general run of samples at 4s 6d to 4s 9d per 60 lbs. Malt has receded in value 2s per qr, 66s is now the top quotation for Roundland, and the sale dull.

Most of the released foreign beans having gone into consumption, there are now few samples of any description on the market; choice English old are worth 50s to 54s, foreign 48s to 52s per qr; some parcels of Irish kiln-dried new have been sold at 45s to 47s per 480 lbs. The demand for peas seems to have entirely fallen off; scarcely a sale has been effected for the last two months although they are offered 6s to 8s per qr cheaper than at one period of the season; grinding qualities may be bought at 42s to 46s, and breakers at 48s to 50s per qr.

The exports of foreign wheat have been to the extent of 8,000 qrs, exceeding the imports by 6,000 qrs; but of flour, after deducting 4,700 barrels exported, there is an increase of stock of 5,400 barrels. Most of the shipments of wheat have either been old purchases or on importers' account, scarcely a transaction has occurred though all descriptions might be bought on much better terms. The best Baltic red wheat may be quoted at 6s 6d to 7s per 70 lbs, Baltic sweet flour at 28s to 31s, and United States' sour at about the same rates, but very little demand exists for either. Notwithstanding the continued dullness and depression pervading the trade generally, there seems to be a confident opinion that we cannot be long without an improved demand for every article, and that prices, even with the most favourable circumstances for the coming crops, will again rally. The stocks in most of the great corn depôts have, for some time, been decreasing, and the trade is more than usually dependent on the resources of the British farmer.

STATEMENT OF THE IMPORTS OF GRAIN, &c., INTO LIVERPOOL

For Five Months ending January, 1836, and January, 1837, respectively.

Imports for	WHEAT.		OATS.		BARLEY.		RYE.		BEANS.		PEAS.		MALT.	MEAL.	FLOUR.		
	British Qrs.	Colo. Qrs.	British Qrs.	For. Qrs.	British Qrs.	For. Qrs.	British Qrs.	For. Qrs.	British Qrs.	For. Qrs.	British Qrs.	For. Qrs.	British Qrs.	240 lbs.	British Sks.	Colo. Brls.	For. Brls.
Sept., 1835	20134	..	2460	18926	..	2073	..	..	1599	280	48	43	7148	9629	..	..	1279
Oct., 1835	38010	105	..	27506	430	11084	..	104	3112	..	789	34	6807	23181	..	..	1050
Nov., 1835	18790	..	309	13213	10470	13213	74	74	3179	..	69	..	4159	16616	..	..	500
Dec., 1835	28890	..	..	42150	16781	10039	..	208	3516	..	220	..	9656	28087	..	9	889
Jan., 1836	21350	..	..	24020	6185	6358	..	..	1861	..	85	..	6225	18664	..	..	..
Jan., 1837	20963	..	..	20599	6185	18777	..	478	1890	551	1008	1058	13299	14718	..	..	10194
Total.....	127151	105	2709	125815	430	40924	..	446	13267	280	1211	77	33895	96177	148676	9	3718
Imports for Sept., 1836	17183	..	11523	13862	3125	570	31	2	797	..	86	1543	7182	5490	17656	380	5744
Oct., 1836	13241	..	8193	22034	870	7542	..	6	498	..	142	217	5178	11727	16825	693	7605
Nov., 1836	7208	..	950	20640	300	9877	..	5	2606	..	253	18	3546	23028	32780	..	2544
Dec., 1836	6151	..	2050	16090	1600	5135	..	43	16781	..	118	108	3546	19431	21939	209	2252
Jan., 1837	20963	..	2050	20599	6185	18777	2490	478	1890	551	1008	1058	13299	14718	24772	..	10194
Total.....	64766	..	22716	108924	12380	41901	2521	534	7298	551	1607	2836	32551	74394	113972	1482	28439

SOMERSETSHIRE.

Since my last communication, this county in common with other parts of the kingdom has been visited with the prevailing disorder to such an extent that comparatively few have escaped; and a great number, mostly among the infirm and aged, have been carried off. The attendance of our corn markets have been so affected by it that it has been a serious impediment to business; and even now its effects are so apparent on those who do attend, that we do not find the usual business transacted: the consumption of bread and meat fell off during two weeks to a considerable amount, but at present the consumption is getting into its usual channel. The weather about the middle and latter end of last month was very damp and unhealthy, there is now a change for the better. The wheat in ground as yet is looking far from well, in my opinion it cannot wholly recover so as to produce an average crop. We have just commenced bean planting, and before the last week the land was not in condition to receive the seed. Beans that are planted this month or the latter end of the last, generally turn out the best crops. Hay is getting short, even on our low lands, of which we have a good deal in this part of the county, the crops were very light, and old hay by no means a large stock on hand, if we have not an early spring I fear the consequence will be much more serious than has been anticipated; we have had abundant supplies of all kind of grain the last month, which has brought down the price of almost every article,—to begin with wheat, the millers are now large holders, and the farmers are pressing sales, which has had the effect of reducing wheat from 8s to 7s 3d new, old 8s 3d to 7s 6d, these prices of course are the highest given for the best article; barley, from 38s to 44s, and 45s; old beans, 6s 3d to 6s, new 5s 9d to 5s 4d, for seed these are selling from 5s to 6s per bushel higher; oats are also rather lower, farmer's 26s to 38s, ship oats 24s to 26s, 36 lbs. to 39 lbs. per bushel. Fat stock have been forced out, and there is now but few in the grazier's hands; the same may be said of sheep; hitherto our markets have been well supplied, both with beef and mutton, but it is easily to be accounted for from the want of feed. Veal, which has been 8d to 9d per lb., from an increased supply is now lower, say, 6d to 7½d. Pork is abundant, 7s to 7s 6d per 20 lbs. Butter has kept up its price 13d to 14d per lb., which is nearly an average of 2d per lb. higher than for many years past. There is very little doing in the wool market, what is kept is mostly in the hands of the growers in the stapler's hands. There is by no means a large stock, and holders among the farmers at present will not submit to the prices at which the manufacturers have recently been purchasing it of the stapler. Our manufacturers have these two last years been proving that their trade does not depend on an importation of foreign corn, and it has been shown that an average crop for two or three years has proved sufficient for our own consumption, and has clearly demonstrated that the protection by duties has enabled us to grow sufficient corn at a low price for our own consumption without injuring the demand for our manufactured goods; it is evident that the fears of the anti-corn law party, and their conclusion, have not been borne out by facts, or by the experience of the two last years. I do not think the protecting duty sufficient to induce the cultivation of land that will not yield a profit under 8s per bushel, if the corn laws made such a cultivation necessary, I would acknowledge their national impolicy.—Feb. 8.

DEVON.

If with a view to give an account of the growing crops, two persons equally competent to form a right judgment were to travel over the same line of country, at the interval of only a few days, in this changeable season, it is more than probable, two very different reports would be the result. But they would, we think, concur in one point, that the breadth of land in wheat does not warrant the belief that the farmers of Devonshire have as yet become converts to the opinion of a certain member of parliament,

viz., that the price of that grain during the last year was never so low, as to induce a belief that it might not be profitably cultivated at a less price. What the effect of future improvements may be would be presumptuous in us to say; but we dare vouch for a truth, that were all the lands under wheat culture, rent free and tithe free, 5s a bushel would hardly suffice to keep the agriculturist from loss at the present time in this country, composed as it is of every gradation of soil. From a more judicious rotation of crops during the last 20 years, particularly on the increased growth of vetches, and from the breaking up of downs, furze lands, &c., (frequently of doubtful benefit to the enterpriser), we readily admit there has been a greater produce on the whole, without subscribing to the doctrine that all lands have become more fruitful, and will be so progressively hereafter. During the last generation, many farms yielded even more bushels of wheat and barley per acre than now; and many a veteran's experience for the last half century or more will corroborate our assertion. The knowledge of good husbandry is not of recent date here. Many farmers justly celebrated for the excellence of their cattle, sheep, and horses, were to be found in the earliest days of Bakewell throughout Devonshire, where it is doubted whether the improvement in sheep and pigs has not been counter-balanced by the greater delicacy of the cattle, and the near extinction of our old pack horses, strong, active, and full of courage. The corn markets are so much influenced by the state of the weather, and its effect on wheat, that it is not easy correctly to quote the prices: 7s to 7s 6d we think quite high enough for a fair average of the part of the year already elapsed, although the returning markets make it higher. Barley may be taken from 3s 9d to 4s 3d, and oats at 2s 4d to 3s for very superior samples of potatoe, Scotch and Essex; and we conscientiously believe the prices of grain should not be respectively below these quotations to afford even a slender profit. The deficiency of hay, turnips, and other winter food, has forced into the market a great proportion of half-fed bullocks and sheep, which have barely fetched 4½d per lb; but heifers or oxen thoroughly fat, and good wether sheep, have been sold for 6½d. So little has been lately done in wool, and so trifling its amount in the growers' hands, that the somewhat reduced prices of this article affect but few. The scantiness of keep, we apprehend, must appear at the next shearing.—Feb. 18.

OXFORDSHIRE.

We have to report a very unpleasant and most unhealthy month, at least so it has proved in our county, having experienced a succession of rain, snow, and fog. The prevailing epidemic has become much more general since the date of the last report, it being quite rare to meet with a house that has not been visited with the disease in a greater or less degree; still we have to be thankful to the Great Disposer of all events that the deaths have been fewer than in many other parts of the kingdom. It has alike visited the mansions of the great as well as the humble cottages of the poor; nor do we believe that it has proved more fatal among the latter than the former. The victims in both cases have been chiefly the aged, or those constitutions weakened by previous disease. We hope we may add that it is rather on the decline, although some thousands are still labouring beneath its debilitating effects. We are happy to say, hitherto the brute creation has been free from it. Although the weather has been most unfavourable to cattle and sheep, especially the latter, as turnips, when the lair on the greensward happened to

be sound, and a plentiful supply was afforded, sheep have done better than could have been expected, while those feeding on turnips must have gone back, however well they may have been attended. The effects of the weather will be both seen and felt in the wool at shear day. We may here notice that in the early part of the month the wool trade was lively, and many lots changed hands at about 44s or 45s per tod; but within the last fortnight the gloom that hangs over the county, occasioned by our monetary system, has spread its baneful influence over this article, though not in anything the same proportion it has done in the corn and other trades. Our markets have been gradually lowering, but our last day was particularly dull; very few dealers attended, and those who did so were principally to settle for previous bargains: nobody would buy, as there appeared but one determination to prevail, namely, to stand aloof and see their way more clear before they ventured to lay out their money. Should this resolution be acted upon long, it must prove (as it now does very inconvenient) most disastrous to the farmers, who had just begun to reckon on a return (perhaps not of prosperity), but at any rate of something like remunerating prices; but their expectations appear to be frustrated, and we would repeat what we said in our last report, there must be something wrong, and we think it is incumbent on the legislature, without delay, to probe the matter thoroughly, and devise some mode of remedying an evil now so loudly and so justly complained of. We are sorry that in the remarks, we took occasion to make in our last report, respecting the utility of having parish cottages to let at an easy rent to the industrious labourer, that your respected correspondent, the Berks reporter should for one moment suppose we intended anything like personal disrespect: and we beg to assure him, that we entertain too deep a sense of the valuable services he has for many years rendered to the cause of agriculture, in another situation, as well as in that of the reporter, willingly to insult, or to give offence of any kind to him, and though in most points respecting rural affairs we are agreed, yet on this one I hope and trust, "we shall agree to differ."—Feb. 11.

KENT.

We have for some time had very cloudy and wet weather, but not so as to stop the ploughing in of land that had not been moved since harvest, but it has been impossible, with very few exceptions, to do much in getting the land in a fit state to receive the forthcoming spring crops. Few have begun getting in their beans and grey peas; if we could get a few dry days we should all be busy, as the time is come when we should get our crops in on our poor chalky soils, for on such lands early sowing is very often best, on our best soils March is soon enough. Our wheats in general look a good colour but backward; in some places where too wet it has lost plant, and is looking anything but well. The clovers, rye, and tares, are looking well, having suffered by the frost but little. The corn markets with us are in a very dull state, and nothing but good and dry wheat will find a buyer, and at reduced price. Barley, malting and grinding, are much reduced in price, but oats, good and dry, are much sought after and at higher prices. The cattle markets have been plentifully supplied with beasts, some very good, but numbers are more fit for the stall than the butcher; prices very dull. Sheep have been sparingly brought to market, and prices have advanced; the late snow storm and wet weather have occasioned some heavy losses, which will affect the markets for some time to

come. The marshes in some levels have not had so much water over them for some years; all kinds of cattle have been obliged to be taken from them, and in some instances great difficulty has been experienced to save them.—Feb. 16.

NORFOLK.

(ORIGINAL.)

Since our last, the weather having become more settled, some disposition has been manifested towards the commencing of active operations for the sowing of pulse. With regard to the more friable soils not readily acted upon by moisture, the peas and vetches were put in somewhere about the first week in February, but a large breadth of land still remains to be planted with both peas and beans, in situations where the land is yet too wet to bear the tread of horses. The fallows also intended for mangel wurzel have had a second ploughing where it has been practicable; but as this is chiefly confined to the lighter soils, the extent is not very considerable; in short, the usual routine of business at this season of the year is altogether backward, and the prospect not particularly inviting. Our report on the appearance of the wheat crop last month was somewhat of a favourable tendency; nor is there at the present moment, we presume, much occasion for us to alter our opinion: nevertheless, it must be admitted that the prospect is less satisfactory now than it was at that time, to the extent, at least, that the then healthy looking plant has exchanged its green hue for russet brown, or even but in too many cases has, to a casual observer, disappeared altogether. At present, however, it is the blade only which has suffered; and whether or not that circumstance will eventually be productive of a radical injury to the crop, wholly depends upon future contingencies—dry weather, with a due proportion of sun, would restore the plant; whereas a continuance of cold nights, with a humid atmosphere for any length of time, must inevitably prove fatal to the weakly portion of the crop. Neither can we make a very favourable report of the sets of grass, which are almost universally pronounced to be thin and unpromising. The failure of the clover layers does not always depend upon the season, but is sometimes attributed to a too frequent repetition of the sowings succeeding each other at short intervals; to obviate which, trefoil and other grasses are taken alternately with clover, and although the hay arising from the one is less valuable than that of the other, the farmer is satisfied that his object is attained. Certain seasons, however, may render even this precaution abortive, as either the want of moisture in the summer may prevent the vegetation of the seed, or an excess thereof may superinduce too great a luxuriance in the crop of barley or oats with which it is sown; in all probability the failure of the present crop, which is not confined to clover only, is attributable to the former circumstance. From the present time to the beginning of June may not inaptly be termed the period of harvest to the Norfolk grazier, as very few beasts fattened in this county appear in Smithfield before the beginning of February, or after the middle of May; and taking a cursory view of the market for the last few weeks, we should say, the season has commenced under no very propitious circumstances for his interest. It should be borne in mind, that the store beasts were bought in at rather a high figure, and owing to the great advance upon oil-cake over the price of last year, they have been prepared for the shambles at a cost too great to remunerate

the feeder; add to which, the supply of Smithfield Market is so fluctuating and uncertain, that, although dead meats may be uniformly sold at high prices to the consumer, yet the value of live cattle is so entirely dependent upon the weekly supply, that it not only tends to the discomfiture of the grazier, but involves a character of speculation on the part of the cattle-dealer, more approaching to gambling than to fair dealing. The losses incurred by this description of persons on the 13th instant will sufficiently bear me out in this assertion.

We are glad to find that Lord John Russell has stated most explicitly, in the House of Commons, that Ministers do not intend to propose any alteration whatever in the "Tithes Commutation Act." The communication is a most important one to the landed interest, and we trust will rouse the proprietors from the unaccountable indifference with which they seem to regard the measure. The process of effecting an arrangement with the titheowner is but the business of a week or two; but the fair adjustment of the gross amount, so as to meet the approbation of the individual proprietors, is not only more complicated, but, in nine cases out of ten, cannot be effected without the aid of the "Parochial Assessment Bill;" and, consequently, more time will be required to complete the business than may be at first anticipated.—Feb. 23.

SOUTH NORTHAMPTONSHIRE.

(ORIGINAL)

There is little, at this season, for an agricultural reporter to dilate on, the farmer not being at present able to commence sowing his spring corn, owing to the wetness of the soil, occasioned by the late heavy rains, which has also very much retarded the carting of manure, and we are afraid it has greatly injured the late sown wheats, which are assuming a yellow and very sickly appearance on the wet and clay land, which we hope will fully prove the necessity of under-draining, as, in a season like the present, the crop would fully pay the expence the first year.

The corn markets are now in a very dull state, which, in a great measure, may be attributed to over supply, occasioned by the incessant working of the threshing mills, as the horses cannot be employed in the field; but it is generally thought here, that good wheat will be very scarce before another harvest, as the wheat ricks are disappearing very fast.

The new Poor law has been in operation nearly twelve months here, and has quite exceeded the most sanguine wishes of its numerous supporters; we have not heard of one case of the horrible grinding down of the industrious and aged poor, as reported in some of the calumnious Tory journals; the reports to the Commissioners of the several Chairmen of the different Boards of Guardians in this county, would, we should think, carry conviction to the minds of its most obdurate opposers: we, who were not of its first supporters, are now so thoroughly convinced of its general utility in relieving the aged and those really in want and preventing the imposition of the idle and disorderly, that we now view it as a great boon conferred on the agriculturists, the poor rates having been reduced nearly one half their usual amount.—Feb. 22.

YORKSHIRE.

(ORIGINAL)

The weather has been remarkably changeable during the month. For the first week, it was of a bright and drying character; the western and north

west breezes played, accompanied by a bright atmosphere. Wet fell during the second week, with several and rapid changes of temperature, and now the air is colder and frequent showers of sleet pass over. The Cravens, in the West Riding of this county, were covered with snow on the 22nd. Vegetation has suffered from the extreme mutability of the weather. A fine day occasionally excites the activity of the sap, and the extreme change of temperature the next, withers and blasts the tender shoot. The breadth and prospects of the wheat crop we understood from your letter, were, and would continue to be a subject of stirring interest as the spring approached, and we have taken some pains to ascertain as correctly as possible, the real state of the case. The Vale of Cleveland is the most celebrated wheat growing district in the county, and furnishes some of the finest samples of grain for shipments to London, either as grain or flour, by the port of Stockton on Tees. In speaking of this district we may be understood as referring to all the argillaceous soils in the county. The continual wet for the four autumnal months, not only prevented by far the greatest part of the fallows from being sown, but many from even receiving their dressing, or being ridged up. There is but few clover lays in this district, owing to its being generally conducted on the three course system. Such as is sown is very inferior in appearance, owing to its being "daubed in" in the first instance, and afterwards starved by the wet. Its general appearance is certainly indifferent. On the lighter soils, however, its character is different. Owing to the very prevalent notion of the small breadth sown last year, and the probability of the same occurring this, many farmers were induced to plough out clover lays intended for oats and barley and sow them with wheat; and this, even as late as December. In other cases, where the turnips failed, and were soon eaten off, it was seeded with wheat; but with all these circumstances,—taking into account the deficiency on the best wheat soils, we believe the breadth to be under, rather than over, an average. With respect to the appearance,—all depends upon the time of sowing, and state and character of the soil. The early sown is decidedly the best, as the strength it had attained before the cold rains of December, prevented it from suffering so very much. We have seen some fields luxuriant,—curly, and flat, nearly covering the soil, but certainly there is no fear of the best of it being "winter proud." It is probable, that efforts will be made to sow a larger quantity than usual of spring wheat, as the country has been filled with oats grown upon the clay fallows of last year in lieu of wheat. Bean sowing is just about commencing, and tares are beginning to be put in. They are selling at various prices, from 3s. to 7s. per bushel. Turnips are fast consuming;—there is certainly fewer in the country at this period, than ever we remembered. Persons are still disposed to eke them out as far as possible, and the fat stock are kept week after week, in expectation of prices rising, to the detriment of their holding stock; but the supplies come gradually to market, and the prices being certainly high, generally speaking, the consumption is steadily supplied, and the fat stock on hand must come to market. Should the spring be forward, and grass follow the consumption of turnips, we apprehend prices will never be very high; but if the reverse, recourse must be had to corn and hay, and then prices must advance. There has been a great deal of oats consumed for fattening stock this year, owing to the scarcity of turnips and potatoes; and, indeed, it seems a providential dispensation of Divine Provi-

dence that the superabundance of oats has, in some degree, made up for that deficiency; and had not such an extra call been made upon them, they would scarcely have met a market. Threshing is still going on at a rapid rate;—there never was less Lent corn, especially barley, in the country at this season. Chevalier is in better demand, and it will sell briskly for seed this year. Its principal fault is its early "lodging," or laying; but as this was but little seen last season, in consequence of the very dry spring, its force is not felt so much by those who are disposed to give it a first trial. Corn markets are kept dull by the very heavy supplies of grain brought into them. Beans and wheat are the steadiest sale, and the barley trade seems rather to rally; indeed most of the Yorkshire markets seem to improve, though slowly. Farm work in general is in a state of forwardness—the winter upon the whole has been favourable to it; and, despite of thrashing machines, there is scarcely a labourer out of employment in the county. This, however, must be attributed partly to so many of them being required for the rail-roads and public works now in course of formation. The plough is actively engaged, and follows the sheep fast, having previously turned over the leys. Hedge cutting is going on very rapidly. Manure is at the mixen soon after made by the cattle, but the allowance of fodder has been generally scanty. Very little trifolium is sown, and it is looking unfavourably. Clover is beginning to vegetate, and turnips to strike their wollets afresh, and the seed stems are beginning to grow. The poor law amendment act is rapidly coming into operation, and much opposition is manifested to it at York, Huddersfield, and other places. While we think it is capable of improvements, and while we deprecate the *bastardy clause*, we would have it fairly tried as a principle. Now that it is the law of the land, and the complicated machinery attending it has been so generally set to work, the old system can never be returned to.—Feb. 23.

SOUTH HAMS.

Very small progress has been made in any kind of labour on the farm, with the exception of thrashing, and carting manure. The Wheat Tillage in several parishes, is scarcely yet completed; several farmers have from 10 to 25 acres to till for corn, whilst one of them had as many as 38 acres not tilled, and in fact, much that was intended for wheat, is left to be put to barley and oats. This season is much later than we have known the wheat tillage for several years past, and if we have a wet and uncongenial spring, it is likely to be very prejudicial to the crop already in the ground. It has been usual for us to commence ploughing for barley by this time, but as yet, in consequence of the wet state of the land, scarcely any preparation has been made for it. Corn of all kinds come to hand in bad condition, and the markets are in a very depressed state, and probably will continue so for a time. The very best white wheat is now selling at 16s per bag (12½lbs.) and red at 15s; barley, which a few weeks ago was selling freely at 9s and 9s 6d per bag (2 imp. bushels) is now extremely dull, and selling at 7s and 7s 6d per bag, and in no instance, we believe, does it exceed 8s. Oats, 8s to 8s 6d per bag (20 gallons). There is but little demand for wool at present; it may be quoted at 1s per lb. The few turnips we have are nearly all consumed, and grass is very scarce. Store bullocks, and cows, and calves, come to market in very poor condition. The stock of hay holds out full as well as could be expected; this we attribute

mainly to the extreme caution with which it has been used; it is now rather declining in price. Thus far we have had a pretty good fall of lambs, but many are lost in consequence of the Ewes not having a sufficient quantity of milk to support them, and many are kept alive by giving them milk from the cows.—*Plymouth Journal*.

GENERAL AGRICULTURAL REPORT FOR FEBRUARY.

The weather of this month has in every respect fully supported its fill-ditch notoriety, whilst the atmospheric temperature has been very changeable and dilapidatory to the thatch of corn and hay stacks, &c. The progress of ploughing the land, destined to be sown with spring corn, has been in many parts greatly impeded by the prevailing heavy rains, which have in many low situations completely flooded the soil. However, with these exceptions, most other field labours common to this month have proceeded favourably, and are well in their place. The growing wheat plants are looking, generally speaking—except where the land has been flooded, and thereby caused them to become sickly—strong and healthy, and manifest a promising appearance, whilst the whole range of green vegetation is displaying, for the time of year, an animated appearance; and the soil in many parts covered with primroses and daisies.

Depastured stock is, we are happy to assert, thriving well in the pastures, though not without the aid of fodder.

In our markets for the sale of all kinds of farm produce, trade has been, throughout the month, inclining to be dull. With good wheat and veal at fully, with other kinds of corn and fat stock, as also milch cows and dairy produce, with hay and straw, at barely last month's quotations.

The following is a monthly retrospect of the supplies and prices of fat stock, sold in Smithfield Cattle market:—

		SUPPLIES.			
		Beasts.	Sheep.	Calves.	Pigs.
Jan. 27.	..	440	2050	140	220
— 30.	..	2495	25300	110	195
Feb. 3.	..	421	2132	85	205
— 6.	..	2750	25500	196	382
— 10.	..	692	3781	102	323
— 13.	..	3364	27200	180	327
— 17.	..	631	2023	110	332
— 20.	..	2965	18500	113	345
— 24.	..	697	2015	56	231
Total ..		14455	108501	1092	2560
Supply of preceding month.	}	13195	97240	1165	1981

It appears, by the above statement, that the present month's supplies have comprised 1,260 beasts, 11,261 sheep, and 579 pigs more; 73 calves less, than those of last month.

About 1,490 of the beasts noticed above, fully half of which were short horns, and Herefords, the remainder chiefly Scots, Homebreds, Devons, and Irish beasts, have come from Leicestershire, Northamptonshire, and our other Northern districts; about 1,855, mostly Scots, short-horns, and Herefords, from Lincolnshire: about 3,250, two-thirds of which were Scots, the remainder Herefords, Devons, Welsh-runts, and home-breds, from Norfolk; about

955, in about equal numbers of Herefords, runts, Scots, and Devons, from Suffolk, Essex, and Cambridgeshire; about 690, horned and polled Scots, by steam-vessels, from Scotland; about 1,930, consisting of Devons, Herefords, Scots, home-breds, and Irish beasts, from our Western and midland districts; about 600, mostly prime Sussex oxen, steers, and heifers, with a few Devons, runts, and Herefords, from Kent, Sussex and Surry; and the remainder including about 130 lusty towns-end, with a considerable number of milch cows, from the cattle-loggers, cow-keepers, stall-feeders, marshmen, &c., near to, and within a few miles of, London.

PRICES.

Per 8lbs, to sink the offals.

	Jan. 27.		Feb. 24.	
	s. d.	s. d.	s. d.	s. d.
Inferior Beef . . .	2 2	2 4	2 2	2 4
Middling, do. . .	2 8	3 10	2 8	3 8
Prime, do.	4 0	4 4	3 10	4 2
Inferior Mutton . .	2 10	3 0	2 10	3 0
Middling, do. . .	3 6	4 10	3 6	4 8
Prime ditto, . . .	5 2	5 6	4 10	5 0
Veal	4 4	5 6	4 4	5 4
Pork	3 6	4 10	3 6	4 10

Here follows a comparison of Smithfield's supplies and prices on the two market days beneath mentioned.

At per 8lbs, sinking the offals.

	Feb. 22, 1836.		Feb. 20, 1837.	
	s. d.	s. d.	s. d.	s. d.
Coarse and inferior beasts	2 4	2 6	2 2	2 4
Second quality do.	2 10	3 2	2 8	3 2
Prime large oxen	3 10	4 2	2 3	3 3
Prime Scots, &c.	4 4	4 8	3 10	4 2
Coarse and inferior sheep	2 8	3 0	2 10	3 0
Second quality do.	3 4	3 8	3 6	3 10
Prime coarse-wooled do.	4 0	4 4	4 6	4 8
Prime South Downs do	4 8	5 0	4 10	5 0
Large coarse calves	4 0	4 8	4 4	4 8
Prime small do.	4 10	5 2	5 0	5 4
Large hogs	3 6	4 2	3 6	4 0
Neat small porkers.	4 4	4 8	4 4	4 8

SUPPLIES.

Feb. 22, 1836. Feb. 20, 1837.

Beasts	2,680	2,965
Sheep	20,700	13,500
Calves	265	113
Pigs	450	345

By the above comparison of supplies, it appears, that there were in the market, on Monday, Feb. 22, 1836, 285 beasts less, 2,200 sheep, 152 calves, and 105 pigs more, than on Monday, Feb. 20, 1837.

The quality of the stock exhibited this month, has been tolerably prime—particularly that of the Scots which have formed the Norfolk droves, as also those which have come from Scotland.

Since the publication of our last month's report, nearly 800 large hogs, by steamers, from Ireland, have been exhibited for sale, in Smithfield; but, the quality of them not being very prime, they were mostly slaughtered in the Smithfield Inn yards, and sent into Newgate and Leadenhall carcass markets, where they were disposed of, at prices varying from 3s. 6d. to 4s. per 8lb.

There has been, this month, an immense quantity of slaughtered meat—greater, perhaps, than was ever before witnessed (the number of carcasses of sheep and pigs being nearly, or quite, 5,000) brought to London, by steamers, from Scotland and the north of England, which has tended to greatly depress the prices of fat stock not only in the London, but in some of the provincial, cattle markets.

The sheep supplies have been composed of about

equal numbers of South Downs, old and new Leicesters, old Lincolns, Kents, and Kentish half-breds, with about 1,000 Norfolk sheep, 1,500 polled Gloucesters, 3,000 horned Dorsets and Somersets, 1,100 Welsh sheep, and 580, by sea, from Scotland.—The principal part of the sheep supplies have been derived from Sussex, Middlesex, our northern, western and midland districts, Kent, and Essex.

The business transacted, in store sheep and western, and milch cows, has been by no means great.

NEWTOWNARDS AND COMBER FARMING SOCIETY.

—We have lately received the report of the proceedings during the thirteenth year of the existence of this very useful society. By means of the premiums which this society, in its early stages offered for ploughing, so general had been the improvement, that it appeared unnecessary, at the commencement of this year, to direct any further attention to this department of farming; they consequently determined to devote a greater portion of their funds to encourage the improved system of alternate husbandry, including a due proportion of green crops, which has proved so eminently successful in all those districts of Great Britain, where it has been fully introduced. It was, therefore, resolved to offer, for 1836, three premiums for the best cultivated farms in each of the ten districts. First premium, 1l 5s; second ditto, 1l; third ditto, 15s; being 3l for each district, and, for the ten districts, 30l. Twenty-three candidates, a number greatly exceeding that of former years, came forward, and we have great pleasure in giving the following list of the successful candidates, namely, in District No. 1, Mr. Andrew M'Cutecheon, Ballywittick, 1st premium; Mr. James Cooper, Cunningham, 2nd premium; Mr. Wm. Cooper, Ballyavary, 3rd.—No. 2, Mr. Thomas M'Kee, Drumawhy, 1st premium; Mr. John Paisley, Ballyblack, 2nd.—No. 3, Mr. Robert Ferguson, Bentown, 1st premium; Mr. David Jamison, Morilla, 2nd; Mr. Wm. Ditty, Ballyalack, 3rd.—No. 4, Mr. Samuel White, Ballyskeagh, 1st premium; Mr. James Milken, Ballyskeagh, 2nd.—No. 5, Mr. John White, Killarn, 1st premium.—No. 6, Mr. John Lanktree, Newtownard, 1st premium; Mr. Wm. Creighton, Greengraves, 2nd.—No. 7, Mr. James M'Kibbin, Ballyhenry, and Mr. John Martin, Ballyaton, 2nd premium; Mr. Thomas Innis, Ballyhenry, 3rd.—No. 8, Mr. Wm. Davison, Ballystockard, 1st premium; Mr. Samuel M'Morran, Ballystockard, 2nd.—No. 9, Mr. Robert Boyd, Ballynickle, 1st premium.—No. 10, Mr. David Boyd, Ballywilliam, 1st premium; Mr. John M'Master, Ballymalady, 2nd. To those who obtained as above, the first premium in their respective districts, a further and higher object of ambition was offered, in the splendid silver cup presented to the society by Lord Castlereagh, on the terms that it should be held by the successful candidate for one year, and become the property of the person who might hold it three years in succession, on condition that he should have growing on his farm at least one rood of turnips or mangel wurzel for every five acres in his farm. The cup judges were particularly requested to direct their attention to scientific rotation, proportion of green crops, stock of cattle, and all considerations of general management, whereby the really skilful farmer is signalized; it being desirable that the distinguished honour of possessing this valuable cup, should be conferred upon the person who might present in all respects, the example most worthy of imitation. The very intelligent judges who acceded to the wishes of the society, by undertaking to decide in the competition for this cup, were Mr. Thomas Skillen, of Crawfordsburn, Hugh White, of Ballyholme, and Henry W. Douglass, of Ballymacashan. After a careful investigation of all the cases that came before them, keeping strictly in view the intentions and objects of the society, as contained in their instructions, their well-considered and unanimous decision was, that Mr. Robert Boyd, of Ballynickle, was entitled to hold the cup of this year.

AGRICULTURAL INTELLIGENCE, FAIRS, &c.

THE FARINGDON MONTHLY CATTLE MARKET, held on Tuesday the 7th, was the largest we have witnessed since the first establishment of the Market, and though the trade was not so brisk as on some former occasions, a very fair proportion of business was transacted. Beasts went off at much lower prices than at either of the two markets immediately preceding, as did sheep also, of the coarser descriptions, but good-conditioned Southdowns maintained the quotation of the January market. Considering that our Candlemas-fair takes place on Monday next, and that a fair occurs at Abingdon on the same day, it was a matter of great surprise to many, that our town should present on a mere market day, a supply of sheep and cattle so abundant in quantity, and of such superior quality. But when the situation of Faringdon is considered, with the Wilts and Berks canal on one side, and the queen of rivers winding her majestic course on the other—when from the summit of our far-famed hill, the eye casts an attentive glance around the wide horizon, and sees no terminus to a region teeming in its fertility with all that life can require, the mind is at once impressed with the conviction, that every possible advantage exists for the extension of its trade, and for rendering Faringdon of greater importance than it has hitherto attained in the scale of inland towns. To call its resources into greater play, and to give further development to the unrivalled productiveness of the surrounding country, it will be seen in the resolutions advertised in this day's *Mercury*, that a Market for the public sale of Cheese, is appointed to be held on the first Tuesday in March, and on the first Tuesday of every succeeding month, and no doubt can reasonably be entertained, that it will not prove as successful and beneficial, as our cattle market has done. It has afforded much pleasure to inhabitants of the town and neighbourhood to learn, that it is also in contemplation to open a *weekly* market, for the sale of butter, poultry, eggs, &c., a convenience long desired, and the want of which has been a constant theme of complaint since we have been acquainted with the place.—*Reading Mercury*.

THE WOOTTON BASSETT GREAT MONTHLY MARKET, held on Tuesday last, was abundantly supplied with cattle of every description. Beef and mutton were of a superior quality. Like all other markets and fairs, sales were rather dull; and in consequence of the Devizes and Bath fairs being on the same day, we did not get so full an attendance of butchers and dealers, yet a great many sales were effected. There were of beasts, 567; sheep, 272; pigs, 187. A great quantity of corn met with ready sale:—Prices as follow:—wheat from 27s 30s per sack; beans, from 20s to 26s; barley from 29s to 35s per qr; oats from 21s to 28s. Beef from 8s to 9s 6d per score; mutton from 6d to 7d per lb; bacon, 6½d. Cheese from 50s to 63s per cwt; butter from 1s to 1s 1d per lb; eggs, 14 for 1s; ducks and fowls, from 2s 6d to 3s per couple. The next great Monthly Market, will be held on Tuesday the 14th day of March, when the premiums and prizes will be awarded to those persons who have done the most business, according to the rules and regulations of the Committee.

At DREWSTEIGNTON FAIR there was a good supply of fat bullocks, but on which sales could not be considered brisk, at a quotation of from 8s 6d to 10s per score. The number of poor bullocks was large, but these were on dull sale, at low prices. The supply of sheep was not large, and the best fat wethers sold at 6½d, and rather beyond that price per lb.

EXETER FAIR.—Our Shrove Tide Fair has presented one of the poorest shows of Oxen on record. Upon the whole also briskness cannot be said to have been its leading feature. Of fat Oxen but few have been presented, and even of these a small number only

can be said to have been brought to a state deserving the denomination of proof, and these have fetched 10s per score; the quotation in this respect being from 9s to 10s per score. Of Heifer Beef the show has been large, but then most varied have the gradations, and much that is so termed will not be sold, the best articles being picked out at a quotation of from 8s 6d to 10s per score. Plough Oxen have not been numerous, and these have sold at from 26l to 33l the pair. Plough Steers also have fallen off in point of numbers, and are a description of stock that have been rather looking for, those sold being at a quotation of from 20l to 24l the pair. As regards attendance, there have been many strangers from the East in the fair, and some from the Metropolis, but the visits of these appeared to be more for the purpose of observation; of informing themselves with respect to the general state of stock in the country, than that of the more cheering and evident intention to purchase. Half fat stock then, and stock out of condition have lain on hand; the former from the prices now asked, joined to the heavy additional expense that must be incurred to put them in a state fit for the stall, and for which there does not seem to be a prospect of adequate return; but most of the barreners that have freshness about them have been sold at a quotation of from 5s to 6s per score. There has been pretty many cows and calves, but without any change in price from our market quotation. There has also been a pen or two of sheep, for which 7d per lb has been asked.—*Exeter Flying Post*.

At LIFTON FAIR there was a good show of fat bullocks in which business was done at from 8s 6d to 10s per score. The show of store cattle, however, as well Oxen as steers, was not of the usual magnitude.

At SILVERTON FAIR there was a good show of fat bullocks, which sold at from 9s to 10s per score. There were few poor bullocks, nor was any thing in this way in request. It was the smallest show of sheep ever known at this fair, and the best of these sold at full 7d per lb.

DEVIZES CANDLEMAS FAIR.—The supply of beef and graziers was small; dulness was the order of the day, but the prices were not much altered. Mr. G. Raddle sold some fine fat beasts at good prices.

DORCHESTER FAIR.—Our Candlemas fair, was very well attended, and the town was more full than for several past fairs. There was a tolerable supply of stock. A great number of barreners were offered, but chiefly of the coarse kind. Those of the better sort were speed-picked up, at from 6l to 8l, and in some instances higher prices were realized. The stock exhibited bore evidence of the scarcity of keep for some few seasons past, being below the average size. Prices did not, on the whole, exhibit any tendency to advance, as it was the general impression that an improvement of prices can hardly be expected until the existing pressure shall be removed from the money market. In the horse fair, there were very few nags of a good description, and the business was throughout dull at low prices.

CROSTON SHROVE TIDE CATTLE FAIR.—The supply of cattle at this fair was inconsiderable, and the beasts exhibited for sale were mostly of an inferior quality,—drapes and rough-haired stirks forming the general influx. There were a few calves, but they were "rare nantes;" kine any ways fat were readily bought up. The Hibernian swine herds in attendance made up for the paucity of horned cattle by introducing into the fair more numerous droves of pigs than have been witnessed at Croston fair for some years.

BATH FAIR was abundantly supplied with every description of cattle. There was a good attendance of dealers; and the fair is considered to be much above the usual average as regards quantity of stock. Beef

is fetching from 5½d to 6d per lb, and mutton from 6d to 7d.

At STIRLING CANDLEMAS FAIR, there was a great show of black cattle. New calved cows, or those near the calving, were in request, and brought from 10s to 15s a head above last year; queys, do. brought from 6l to 7l 7s, lean stock were in little request, and a good number left unsold. The Horse market was also well attended. Sales were brisk, and good draught horses also higher than at this time last year. The best was 42l; good animals were from 25l to 35l. A greater number of all descriptions were sold than usual.

MARKET DEEPING CATTLE MEETING was well attended by all the principal dealers. There was a good show of beasts, of which three-fourths were sold; the sale of fat stock was heavy.

At DOUNE CANDLEMAS FAIR about half the usual number of cattle were brought forward. Sales were dull, and prices looking downwards. Fat cattle brought from 6s to 6s 9d per Dutch stone sinking the offal. Calvers from 6l to 7l 7s.

DUNKELD CANDLEMAS MARKET.—This market was unusually well attended. Numerous dealers appeared from all parts of the district, but sales were not particularly brisk, and corn prices in particular were thought to have suffered a diminution of at least five or six per cent. Servants were rather in request, and wages still remain high.

At PRESTEIGN FAIR on Saturday, fat cows were sold at about 5d per lb; and fat sheep from 6d to 6½d.

LOUGHBOROUGH VALENTINE FAIR was well attended, fat stock at 7s per stone, store cattle were in great demand; there were few unsold horses, and good ones were in demand.

At LEOMINSTER FAIR there was a scanty supply of stock, and the sale flat; fat cattle 5d to 5½d; sheep, 6d to 7d; and pigs 5d to 6d.

TIVERTON GREAT MARKET.—The supply of fat and half fed cattle was abundant, the best fetched about 9s per score; many did not find customers, and the general opinion that fat beef would be very scarce seems to be wrong. Cows and calves were tolerably plentiful, and dull of sale, at from 8l to 12l each. There was a fair show of barreners, with a dull sale at about 5s to 5s 6d per score. The sheep market tolerably well supplied, with a brisk sale at 6½d per lb, and in several instances rather more was obtained.

BIDEFORD FAIR.—There was but a sorry show of cattle; fat cattle fetched from 9s to 9s 6d, and store ditto 9s to 10s 6d per score.

NORTHALLERTON CANDLEMAS FAIR.—This great fair finished on Tuesday last, old Candlemas-day. Horses of all kinds during the fair were in great plenty and dealers numerous, and, though great numbers were sold, yet the owners did not get such high prices for them as they anticipated at the commencement of the fair, during the first two days great prices having been given. It is understood that a great many of the horses which were bought by the London dealers at the York Christmas Fair (owing to the late bad weather), are still on hand, which may have been the cause of the decline in prices at this fair. The show of cattle on the last day was abundant. Fat Beasts were in demand, and sold from 6s 3d to 7s per stone. In-calvers sold well, but for young lean stock, owing to the scarcity of fodder, there was little demand.

CASTLE-DOUGLAS CANDLEMAS HORSE FAIR.—At this fair the show of horses was nothing short of what we anticipated. The dealers from a distance were numerous, and were not disappointed of what they were in search of. Good roadsters brought from 25l to 40l; coaches from 40l to 50l, and in one instance we are informed that 54l was offered and refused to be accepted. Every thing taken into consideration, we are now fully satisfied that this market is so far established that it prognosticates to become one of the first for horses in the south of Scotland.

WINDYGATES.—PLOWING MATCH.—The Windygates Agricultural Ploughing Match was held on the 7th current, on Mr. Haig's farm, of Methil Hill, when sixty-four ploughs started in competition for the premiums, which were awarded as follow by the judges—Mr. David Watt, Clentrie; Mr. Wilson, Firthfield; Mr. Clerk, Ardit; and Mr. Morgan. Coats:—

1st—The Highland Society's plough medal, to William Dow, servant to Mr. Dickson, Bowhouse of Weemss.

2d—1l. to William McKay, servant to Mr. John Crichton, Balfour Mains.

3d—15s. to D. Haxton, servant to Mr. Wilson, Blacketyside.

4th—12s. 6d. to Alexander Oliphant, servant to Mr. Inmie, Haughmill.

5th—10s. to Francis Philp, servant to Mr. Crichton, Langside.

6th—7s. 6d. to Charles Hoy, servant to Mr. Russel, Balfarg.

At the recommendation of the judges, the following additional ploughmen were thought worthy of notice:

D. Patrick, Sythrum, servant to Mr. Hutchison.

Peter Dow, servant to Mr. Dickson, Bowhouse.

Andrew Gib, servant to Mr. Johnston, Percival.

Peter Findlay, Hayfield, servant to Mr. Spears.

W. Tod, servant to Miss Wallace, of Newton Hall.

James Elder, Scoonie.

The judges were also of opinion, that Alexander Mitchell deserved a recompense from the society for his superior workmanship; but that his plough, although brought from a distant part of the country, was not an implement that they, as practical farmers, could recommend for general use.

Mr. Haig, in compliance with the above recommendations, gave 5s each to the first named six ploughmen, and 20s to Alexander Mitchell.

The whole field of 27 Scotch acres was finished in excellent style in 4½ hours; and the general appearance of the horses and harness did their owners very great credit: their value, with implements, was computed at nearly 4000l. sterling.

In the evening many important sweepstakes were entered into, to be decided at the annual meeting in March next.

PLOWING MATCH.—On Saturday the 11th inst. twenty ploughs started for competition, at Mid Letheny, on one of the parks of James M. Patton, Esq. The judges were Mr. Wylie, Jun., farmer, Busby, and Mr. Miller, farmer. The spectators amounted to nearly 200, but the day was very unfavourable. The ploughmen in general did their work in a workmanlike manner, although the rain and snow fell thick and heavy. The prizes were awarded as follows:—

- | | |
|---|------|
| 1st. John Anderson, farmer, Easter Buchanty | £1 0 |
| 2d. Alexr. Coumie, farmer, West Buchanty | 0 15 |
| 3d. Andrew Moir, farmer, Drumm, Logie-almond | 0 10 |
| 4th. Henry ———, servant to Mr. Young, Newbigging, Methven | 0 8 |
| 5th. James Halley, farmer, Millhole | 0 5 |

There would have been about as many more ploughs, but owing to the inclemency of the weather, proper notice could not be sent to those at a distance.

PLOWING MATCH IN EAST LOTHIAN.

—On the 4th inst. a scene which, although of no uncommon occurrence, yet never before witnessed to such an extent in this county, took place on the farm of Moreham Mains, to which a new tenant, Mr. Ronaldson, from Linlith, Berwickshire, was welcomed by the ever-generous cultivators of the soil for upwards of 12 miles round. At break of day, 196 ploughs started in beautiful array, and aided by the unusual fineness of the weather, not less than 150 acres were turned over. The ploughmen were cheered on by the hospitality of Mr. Ronaldson, who is allowed to be a farmer of the first class, not only as regards the complete knowledge of the art of farming and draining, but as possessed of that gentlemanly spirit which characterises the East Lothian farmers. He was welcomed by his neighbours

in a style which did unspeakable service to him, and conferred lasting honour on themselves. The evening was spent in the highest glee by a few of Mr. Ronaldson's nearest neighbours, Mr. Robertson of Biel Grange in the chair. The company separated at an early hour, equally delighted by the labours of the day and the joys of the evening. From the excellent condition of the horses, their estimated value exceeded 11,000*l*.

FECUNDITY OF SHEEP.—An ewe the property of Mr. Care, of Wotherton, near Chirbury, Shropshire, on Tuesday last lambed 6 lambs all alive, 4 of which are now doing well. Last year (1836) five of the same breed of ewes lambed twenty lambs, all of whom lived and did well; the year before (1835) six of them lambed 23 lambs, and they also lived and did well.

On Wednesday week in the pig market, Chichester, a sow and her litter of ten pigs were offered for sale, for which the owner, Mr. C. Farndell, asked 65*l*. Sixty guineas were offered more than once, but refused, and at the close of the market they were driven home again. Crowds of admiring spectators thronged the pens throughout the day to gaze on this extraordinary family. The weight of the sow was supposed to be about 50 *u*l, and the pigs to average 30 *u*l each.

A PROFITABLE COW.—A short time since, a gentleman at Kingsclere, Hants, was possessed of a cow, which, in her time, produced 21 calves, 300 hogsheds of milk, and four tons of butter. The fat of the cow, when killed, weighed more than the lean and bone. It lived to be twenty one years old, and produced the gentleman altogether upwards of 500*l*.

ENGLISH CHEESE.—In our last annual circular we stated, that owing to the advance in price, the consumption was very limited, and that it would probably take the whole winter to realize what remained on hand from the fall import. In this opinion we were perfectly correct, as in the winter months the retailers found difficulty in disposing of what they had purchased at the advanced rates in November; whilst that which then remained in first hands was still unsold at the opening of the navigation. It was then offered at auction, and not having improved by keeping, was disposed of—Double Gloucester at 10*d* to 11*d*, and King's Arms and Dolphin's at 11*d* to 1*s* per *u*l. Several fresh parcels arrived about this time, and to prevent loss by spoiling in the hot weather, they were closed at about the following prices:—King's Arms, 1*s* to 1*s* 1*d*, Cheddar, 1*s*, Dolphins' and Double Gloucester, 11*d* to 1*s*. The market is now bare of Cheese, little or none having arrived by the fall vessels; what little there is in the market is held by the retailers.—*Montreal Herald*, Jan. 10.

BONE MANURE.

TO THE EDITOR OF THE FARMER'S MAGAZINE.

SIR,—In looking over some of the late numbers of your valuable publication (of which I am a constant reader), I find that several of your correspondents have written on the good effects of bone dust as a manure; but, as they treat principally on *raw bones*, allow me to offer a few remarks on those which are *boiled*.

My farm lies in a cold and exposed situation, in the neighbourhood of the far-famed Buxton Waters; it is entirely of limestone, and has obtained from nature but a very scanty covering of sward. At the time I entered upon it (in the year 1831) but few of the neighbouring farmers made use of bones, although there are two mills for grinding them within a moderate distance. The same year in preparing a field for turnips, I drilled one half of it with raw bones and the other with boiled; the former produced a very fair crop, but the latter *far surpassed it*. Since that time I have used both kinds, but always find the boiled one to answer best, both for the turnips and the succeeding crops of seed.

Having one quarter of the boiled bone dust for which I had no immediate use, I was determined to try its effects upon meadow land, and accordingly had a small patch sown in the proportion of four and a half to five quarters per acre; that part of my meadow the year round is much greener and fuller of herbage than where it is manured with dung from the yards. The next year I followed the same plan, but upon a larger scale, manuring two adjoining meadows with bones, No. 1, with raw, and No. 2, with boiled, using for each twenty-five strikes per acre; the result was what I had anticipated, and I was assured by competent judges, that the produce of No. 2, exceeded, not only in quality, but by several *cwts.* per acre in quantity, that of No. 1. Upon ploughed lands the raw bones answer tolerably well: but I never found their good effects upon grass: not only do the boiled bones bring a quicker and fuller return to the agriculturist, but they are much cheaper, which is a consideration but few farmers will be inclined to overlook. Perhaps some of your numerous correspondents who may be more deeply versed in the mysteries of chemistry than I (who am but a humble farmer), will, through the medium of your publication, favour me with their opinion as to the probable cause of the difference in the two kinds of bone manure.

I am, Sir, your obedient servant,

PEVERIL OF THE PEAK.

Crongstone, Grange.

BONE MANURE.

TO THE EDITOR OF THE YORK CHRONICLE.

SIR,—The turnip crop during the past year has been the victim of a series of attacks from a great variety of insects, and so destructive have they been, that in many counties the crop has been lost, and in this county it is little more than half a crop. We may truly say in the language of inspiration "That which the palmer-worm hath left, hath the locust eaten; and that which the locust hath left, hath the canker-worm eaten; and that which the canker-worm hath left, hath the caterpillar eaten."—Joel i. 4, 5. Indeed, the attacks first of the turnip-fly (*Haltica nemorum*), of the black caterpillar (*athalia centifolia*), the root-weevil (*medicus contractus*), the plant-louse (*aphis brassicae*), and the green caterpillar of the butterfly (*Pontia brassicae*), as well as slugs and snails, are so destructive and so baffle every art of destruction, that was not that crop the mainstay of good farming, it must cease to be cultivated.

It must be admitted that these enemies are much more numerous than they were some years ago, and to what can this be attributed? We should perhaps be wrong in referring it to any one cause, but it becomes an interesting inquiry, *whether the introduction of bone manure had any effect in extending the evil*, by favouring the propagation of insects, or by introducing new species from foreign countries? When we reflect how many cargoes of foreign bones are annually imported from nearly every country of Europe, and many of these perhaps have been buried in the ground for some time, it must be obvious, that nothing is more likely for a nidus for the various burying insects. The fact of the skull of Hampden having a number of wire-worms attached to it, seems to show that that grub has a peculiar liking for decomposing bone. I believe they are especially favourable to that disease produced by insects, known provincially by the name of "fingers and toes."

A farmer in Lincolnshire has recently observed the *larvæ* of some insects amongst bone manure. The subject is well worthy minute investigation.

Yours respectfully,

A YORKSHIRE FARMER.

Yorkshire, Feb. 2, 1837.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—Having derived much information through the medium of your publication, I venture to inquire of its numerous readers the *best* and *cheapest* mode of improving grass land, whether lime, bone dust, soot, &c., might not be used to advantage; if a compost with soil, &c., be recommended, what proportions are necessary, and when to be applied; also the different effects produced, and of what duration?

As I live in a neighbourhood where lime is of easy access, I wish to know its effects if applied *alone*, and what quantity would be considered a proper dressing; the soil being of a red loam, with a slight mixture of small stones.

A hint as to a top dressing for young clovers would prove acceptable, stating the effect of different manures, whether alone or in compost; being convinced that the slightest particle of manure tends to their luxuriant growth, I trust that some *practical* agriculturist will give an opinion on so important a point of the grazing department, which appears only in its infancy, when compared with the unrivalled *tillage* of our soil. By inserting the above in your next you will much oblige your constant reader,

R. S.

Feb. 14, 1837.

IMPORTANT TO LANDLORDS.

A case of great importance to landlords, has lately been decided in the Court of Session, and, so far as we can judge of the report in the *Scottish Jurist*, it not only unsettles, but in a great measure destroys, the right of hypothec in urban tenements. It appears that a gentleman of the name of Jaffray, set a dwelling-house and garden, &c., in Stirlingshire, to one Thomas Carrick, for a year, at 27*l*. of rent. The tenant entered to the possession at the fitting term of Whitsunday, bringing with him several cart-loads of furniture, which the landlord believed, and had no reason to doubt, was the tenant's own furniture. He possessed the premises till the following term of Whitsunday, but having failed in payment of the first half year's rent, the landlord, in the month of December, found it necessary to sequestrate the effects on the premises, in common form, and having applied to the Sheriff for a warrant to sell as many of the sequestrated effects as would cover the half-year's-rent past due, he was met by a caveat at the instance of a young woman of the name of Jean Carrick, a sister of the bankrupt tenant, and in a relative process of interdict, she maintained that the whole furniture in the house, with some trifling exceptions, belonged to her, and that she had never given her consent to its removal to Mr. Jaffray's premises. In this action, the Sheriff found that as her consent was not instructed, the effects were not liable to the landlord's hypothec,—and to this judgment, the Second Division of the Court of Session (affirming the Lord Ordinary's interlocutor,) adhered. There was a difference of opinion among the Judges at the advising, Lord Medwyn maintaining, that Jean Carrick was bound to have given some notice to the landlord, of her latent claims of ownership over the furniture, and that having failed to do so, for seven months after she saw it removed into the premises—she was barred personali exceptione from afterwards pleading such latent right. But the Lord Justice Clerk and

Lords Glenlee and Meadowbank held, that she was not under any legal obligation to give such notice!—so that the tenant's sister, in this case, had been permitted to carry away the whole sequestrated furniture, and the landlord has not only lost his year's rent, (because forsooth he could not show that the sister had expressly consented to her brother's taking the furniture along with him), but he has been found liable in all expenses! We confess, this is a most alarming decision to landlords, and if it be suffered to remain in the books, as a precedent,—no landlord in Scotland, can in future place any reliance on furniture or effects brought into the premises; for wherever a tenant is unable or unwilling to pay his rent, he will have no great difficulty in procuring some convenient sister or brother, or other conjunct or confident person, or even some friendly stranger, to step forward, with real or pretended claims of ownership over the furniture, and thereby, as in the present, defraud the landlord of his rent. We are informed that several proprietors of house-property in this city, have it in contemplation to promote a subscription for carrying the case to the House of Lords, where a reversal is confidently anticipated. In the meantime, and until the judgment be actually reversed, it will regulate the law of Scotland in all similar cases.—*Edinburgh Paper.*

STEAM PLOUGH.

The Highland and Agricultural Society of Scotland has offered the undermentioned premium to be given by the Society in the year 1837.

A Premium of Five Hundred Sovereigns will be awarded for the first successful Application of Steam Power to the cultivation of the soil.

By the cultivation of the soil are to be understood the operations of ploughing and harrowing, or preparing the soil in an equally efficient manner, and the other purposes for which animal power is now used; and success of the invention will be judged of in relation to its applicability to the above purposes in the ordinary situations of farms in this country, and to the saving of *time, labour, and outlay*, which it may possess over animal power as now generally employed in the cultivation of the soil.

The merits of the invention, with reference to the conditions enumerated, will be judged of by a Committee of the Society specially appointed, and the inventor will be required to exhibit the machinery and modes of applying it in Scotland. The Secretary of the Society, on application of intending competitors, will furnish any information which may be required.

The Society in offering this premium, does not feel it to be necessary to express opinions as to the probabilities of a successful application of steam to tillage, as to the means by which the object may be attained, or as to the effects which might be supposed to result from the application of such a power. But it has felt it to be a duty imposed upon it by its situation, to bring the subject in a proper manner before the country, to encourage those who are now engaged in this class of experiments, and to stimulate future invention by the offer of premiums corresponding, in some measure, to the interest and importance of the subject. Looking to the vastly extended application which has recently been made of steam as a locomotive power, and seeing that the difficulties which are opposed to its application to the purposes of the farm have been at least partially overcome by the efforts of individuals, it has appeared to the Society, that without exciting expectations which may not be realized, a strong ground exists for having this possible application of steam power made the subject of fair and satisfactory experiment.

RURAL POLICE.

TO THE EDITOR OF THE HEREFORD TIMES.

SIR,—I trust the Melbourne Government will disregard factious clamour, and establish a Rural Police, for the protection of the peace and property of the Agriculturists. Scarcely a week passes but we hear of some miscreants, under cover of the veil of night, either committing thefts or doing wanton and cruel mischief to the live and dead stock of the inhabitants of the country. The greater number of these deprivations are never made public; and the few that are, shew the character of the whole.—A short time since, through the activity of your City Police, Mr. Cranston detected, prosecuted, and transported, a fellow who had stolen one of his sheep out of a meadow near the city; a few weeks ago Mr. Cranston suffered a similar loss. A midnight marauder killed one of his sheep in its pasture, cut off the hind-quarters, and threw the remainder of the carcase into a ditch. Last week, a sheep belonging to Mr. Charles Bulmer was served in exactly the same manner. Also, a young heifer was forced into the brook, and there kept until drowned; this was no very difficult task, as the brook was much swollen from the heavy rains. It is scarcely a month since a valuable cart mare, the property of Mr. Pateshall, of Allensmore, was wantonly injured by some savage wretch. In fact, I could give a long list of malicious acts committed at night during the present winter, the perpetrators of which have entirely escaped detection. I trust, therefore, our patriotic Ministry will adopt some means, by which the peace and property of the "country folk" may be protected from the ways of the evil doer. RUS.

Hundred of Grimswoth, Feb. 14, 1837.

PARIS STATISTICS.

(From the *Annuaire du Bureau des Longitudes* for 1837.)

CONSUMPTION OF THE CITY OF PARIS DURING THE YEAR 1835.

Wines	932,402 hectolitres.
Brandy	36,910 —
Cider and Perry	17,024 —
Vinegar	18,575 —
Beer	110,621 —
Grapes	727,129 kilogrammes.
Oxen	71,634 heads.
Cows	16,439 —
Calves	73,947 —
Sheep	364,875 —
Pigs and wild boars ..	86,904 —
Pastry, pickled and preserved meats, lobsters, &c.	242,466 kilogrammes.
Country-butchers' meat ..	783,024 —
Pork-butchers' meat ..	2,351,191 —
Gillets, &c.	1,107,943 —
Dry cheese	1,180,421 —
Sea-fish, amount of the sale	4,469,096 francs.
Oysters, do.	1,120,562 —
Fresh-water fish, do.	510,939 —
Poultry, and game, do.	7,993,800 —
Butter, do.	10,677,873 —
Eggs, do.	4,592,424 —
Hay	7,814,377 bundles.
Straw	11,903,606 —
Oats	987,885 hectolitres.
Flour, 1,580 bags of 159 kilogrammes each, per day.	

POOR IN IRELAND.—The managing committee of the Dublin Mendicity Institution have published an interesting paper on the state of the Irish Poor, which

presents a less gloomy view of the subject than the public have lately been accustomed to contemplate. It says:—"The number of agricultural labourers in Ireland is computed by the commissioners at 1,170,000, and they assume that one-half of these, being precisely 585,000, are out of employment for thirty weeks in each year; and as they have 1,800,000 persons dependent on them, the two numbers make 2,385,000 persons to be provided for, for thirty weeks in the year. Obviously, it is a great violence to the use made by the commissioners of these facts (if facts they may be called) to deduce from this statement, as many do, that there are 2,385,000 paupers from this class to be provided for during the whole year round, when, in fact, though their calculation should be strained to the utmost to support the extreme distress existing in Ireland, in only means that this number will require support for thirty weeks." We are then shown, by a statement of facts, that the number to be supported through the year does not exceed 1,150,000. This materially alters the character of the evil with which Ministers are about to deal.

ABUSE OF THE POOR LAWS.—A most extraordinary circumstance has come to our knowledge in the north of this county, not very far from the Wolds. An able-bodied labourer: in full wages—a turbulent pauper of the old school—insisted upon his parish paying his rent, 12/. Having obtained this, he subsequently insisted upon the payment of his tithe, 1/, in which he also succeeded. He then lent the parish 40/; and to this day they pay him 12/ rent, and 1/ tithe, and 2/ interest for his money. He was visited a fortnight since by the assistant-commissioner. He has a house and land, two cows, and many sheep. In point of fact, he may be regarded as having had the money to pay his own rent; and some excitement prevailing about it among the rate-payers, the parish authorities have applied to the commissioner, to know how to proceed to raise the 40/ to pay the loan.—*Hertford Reformer*.

We beg to call the attention of our country contemporaries to a paragraph, entitled "The HORRIBLE WORKING OF THE POOR LAW AMENDMENT ACT," which is now going the round of the newspapers, purporting to be extracted from the *Agriculturist*. This is the same paragraph to which we adverted a fortnight since as having appeared in the *Herald* of the 17th instant, and which that Journal afterwards, under threat of a prosecution acknowledged to be a fabrication. Notwithstanding that avowal it was transferred to the columns of the *Agriculturist without acknowledgement*, thence to the *Times* as an extract from the *Agriculturist*, and has since appeared in several country papers. The wilful fabrication of such a story for the purpose of prejudicing a system which was passed into a law with the almost unanimous consent of both Houses of Parliament, and to the beneficial working of which, the Duke of Wellington and most of the leading men of all parties throughout the country, have borne testimony, exhibits a dereliction of principle which we had hoped never to have seen displayed by the so-called legitimate portion of the press. The reduction of the Stamp Duty seems to have sunk the character of the old-established Journals rather than to have raised up new and unprincipled publications. Our sole object in again calling attention to the subject is, to prevent those who might not be aware of the facts from being misled and unintentionally giving circulation to a grossly false and mischievous statement.

REVIEW OF THE CORN TRADE

DURING THE MONTH OF FEBRUARY.

Throughout the past month, dulness has been the characterising feature of all proceedings connected with grain, not only in Mark Lane, but at all the leading markets in England, Scotland, and Ireland. Notwithstanding, the state of the weather has been extremely unfavourable for all agricultural operations, that much of the land intended to be sown with wheat has remained in fallow, owing to the impossibility of preparing it for seed, that now Spring sowing continues to be impeded by wet, many of the low lands being entirely or partially covered with water, and the probable injury the growing crops may derive from the heavy falls of rain, with alternate sunshine by day, and hoar frost at night, causes, which, when speculation was rife, would have induced considerable investment in wheat, and money would have flowed into the trade, and a material enhancement ensued in the value of wheat; but, at the present moment, all feeling, all power, has been crushed by the total disorganization which the proceedings of the Bank of England have created in monetary engagements, and mercantile confidence has been and is weekly shaken by failures or pecuniary embarrassments. Purchasers, in consequence, hold back from buying, unless at a depreciated price, taking advantage of nervous holders, or those, who, with limited capital, and *unjustly curtailed accommodation* are forced to realize. It is therefore, futile in men of wealth and influence, who have great operations in the London market, to say that there has never been any pressure for money, there has never been any scarcity, that money was always available to those who had unquestionable securities to offer; that this is a fallacious representation is known to every man of the slightest experience, who has the capacity and the opportunity to examine the relative degrees of relaxation and expansion during the two equal portions of the last year. It is, therefore, we repeat, futile to pretend there has not been, and is no pressure; the pressure has been severe and long continued, and if it has been less sudden and calamitous in its immediate effects than the pressure of 1825, that is to be ascribed to the greater skill which experience has taught the Bank Directors, in applying the restrictive force, and to the increased power to bear or resist it, possessed by the public; though, at the same time, it is a subject of deep lament, that such power, such restrictive force should be vested in the hands of any private body of individuals, having, as it were, the commercial interests of this mighty mercantile kingdom at their disposal.

It seems apparent, that the farmers are, however,

holding for higher rates, the returns of the quantity of wheat sold during the month not having exceeded 273,700 qrs throughout England and Wales; whereas, in January, the deliveries amounted to 339,900 qrs, and in December 326,600 qrs, a circumstance, not originating entirely from decreased demand, though, no doubt, the prevalence of the influenza has latterly diminished the consumption, but the positive quantity offering has been very limited. The millers, from the difficulty of obtaining cash, refrain from laying in stocks, and continue, therefore, to buy from "hand to mouth," and the article, finding no vent beyond a demand for manufacture, and that contracted unusually small, is realizing prices some shillings lower than current events would authorize under ordinary occasions; but, as the consumptive demand must proceed, though it may be slowly, until the money market is relieved, yet, the finer qualities of wheat are likely, under even the disadvantage of want of money and condition, rather to advance, while inferior, ill-conditioned samples, as is usual in a depressed state of trade, can be forced off only at rates below their relative value. Towards the close of the month these facts were being more particularly exemplified and the consumptive demand pressing against the supply, the fine parcels of wheat available for immediate manufacture were improving in value, and obtained fully 2s. per qr more money, but all secondary and inferior sorts have receded 2s. to 3s. per qr and extremely difficult of disposal at this decline.

The encouraging advices from the United States, especially Baltimore, where a large cargo of fine Königsberg wheat realized 2 dollars 22 cents per bushel, which, even deducting the usually enormous charges and a freight of 10s, and 15 per cent. would leave a profit of 15s per qr, has induced the contemplation of several shipments of bonded corn; but the difficulty of procuring vessels, checks to a certain extent the fulfilment of the speculations: most of the shipments making, are on owners' account. Prices remaining the same as noted last month.

The Flour trade has participated fully in the heaviness of wheat, and though the nominal quotations of 55s have been maintained, yet sales of town made qualities have been making at from 48s, 50s to 52s, and latterly the last quotation has been rarely exceeded; ship qualities have been in moderate supply, and moved off slowly at a reduction of 2s to 3s per sack. Bonded Flour has met occasional sale for export, chiefly to the West Indies, at 27s to 28s for Danzig and Hamburg, and superfine 29s to 30s per barrel. A sample of very superior flour was offering

from Silesia, the quality exceeding the best Danzig marks, and competing with the produce of the United States, and held at 31s per barrel.

Though the receipts of barley have been moderate, both of British and Foreign, yet so great has been the apathy of the malt trade, that great difficulty has been weekly experienced in quitting samples, though factors, in many instances, for secondary qualities, have depended for price more on the offers of purchasers than any fixed quotations, the finer descriptions not realizing by 2s per qr so much money as they did at the commencement of the month; distillers have bought also sparingly at a reduction of fully 2s, and grinding has hung on hand at the same decline. Fine Chevalier for seed has nearly maintained its previous rates. Several parcels of foreign barley have paid the prevailing duties of 9s 4d per qr; and which being pressed on the market for sale ex-ship has contributed in giving additional dulness to the trade. Malt has been almost unsaleable, except the finest parcels, owing in part to the diminution in the consumption, and partly to the unusually large amount of old malt held by the principal brewers; good samples are obtainable at 60s.

During the month of February the following quantities of Grain and Flour have arrived in the port of London:—

	Wheat. qrs.	Barley. qrs.	Malt. qrs.	Oats. qrs.
English	21,975	26,012	29,211	35,449
Scottish	402	305	..	4,412
Irish .....	..	1,257	..	75,631
Total in Feb.	22,077	27,575	29,211	115,492
Total in Jan.	24,424	26,669	18,173	53,924
Total in Dec.	30,675	55,255	23,016	77,186
Foreign in Feb.	6,380	2,060	...	12,072
	Beans. qrs.	Peas. qrs.	Linseed. qrs.	Flour. sacks.
English	6,989	4,863	..	35,000
Scottish .....	..	..	..	180
Irish .....	..	..	..	..
Total in Feb.	6,989	4,863	...	35,180
Total in Jan.	6,611	5,839	..	30,790
Total in Dec.	6,894	6,247	60	39,628
Foreign in Feb.	2,118	1,833	15,277	brls. 3,615

The arrival of oats from Ireland has been large, compared with the previous month, and have proved much more than adequate to the demand. The same complaints are being made against the shippers on the other side, to which we had cause to refer the last month. The quality of many of the bulks being extremely inferior, and so little attention paid to their preparation previous to shipment, that they have arrived much out of condition, varying from warm to heated and smoking hot; where fine colored well prepared, heavy oats have been contracted for, a sample has appeared, colored it is true, but with every shade of brown, chaffy and unsaleable, and it is calculated that full 30,000 qrs are in granary of this kind of stuff, for which it is difficult to get any price, though sales are even making at 12s, 14s to 17s per qr. From Scotland the supply has been

very moderate, indeed the demand at most of the more northern markets in Scotland for oats, to grind into meal to meet the demand from the Highlands, renders the shippers much more than usually independent on the metropolitan trade, and the shipments are therefore likely to be this season on a very contracted scale. The cause of this demand we are sorry to learn from the tenor of the following letter: "I am sorry to see it is now ascertained beyond a doubt that a large portion of the Highlands, &c., are in a most deplorable state of destitution, inasmuch that the landed proprietors are quite alarmed as well as others interested in quarters, for absolute famine. To prevent such a direful calamity, subscriptions are opened in all the large cities, &c., and I observe a deputation has gone from Edinburgh to London at the solicitation of a public meeting held at Edinburgh, to plead the cause of the poor people, and unless a very large sum is raised in this way, or a grant from government, it is much to be feared many a one will be starved to death for want of food, to say nothing of seeds which they will be required to be provided with."

At the commencement of the month the finer qualities of Oats maintained their quotations, but other descriptions met little attention, and towards the close even the better sorts gave way in price, and must be noted 1s to 2s lower, and secondary, inferior stale, and out of condition qualities dependent entirely on the offers made. But an opinion is gaining ground that parcels of oats in fine condition have seen their lowest for some time to come, because the exceeding bad quality of the bulk of Irish, so far as can be judged from what have lately come forward, will keep down the averages, and, therefore, prevent fine foreign oats being admitted for consumption at a moderate duty. The best and heaviest of the Irish oats are always sent to the Glasgow market, where they find a better demand for mealing purposes; beside that, being there sold by weight, mistakes in their delivery are less likely to occur than according to the usage of London, where the deliveries are by measure; further, the late advices from Limerick quote this article at nearly 1s a stone to the growers, a price which our sales here at present cannot warrant, and either we must rise, or they must fall, before a remunerating trade can take place.

The following account may prove interesting, as exhibiting at one view the quantity of British oats which have arrived in London during the last seven years, together with the annual quantity of foreign which have paid duty for consumption at our port, the gross total, furnishing the amount required to meet the demands in Mark Lane:—

OATS.

Years	English.	Scottish.	Irish.	Total.	Foreign paying Duty in London
	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
1830	186265	139446	2,6670	602381	493467
1831	169118	144631	332099	745848	266713
1832	207944	117883	681957	1,007781	131
1833	203207	176979	573349	953533	671
1834	163671	326402	488822	978895	46771
1835	101641	217049	721494	1,040184	1,25575
1836	206006	169239	616560	991805	45612

Making the gross total annual supply of English and free foreign oats—

1830 qrs. 1,095,848	1831 qrs. 1,012,561	1832 qrs. 1,007,915	1833 qrs. 954,204
1834 qrs. 1,025,666	1835 qrs. 1,165,759	1836 qrs. 1,037,417	

giving a septennial average of 1,042,767 qrs.

Beans have come to hand much out of condition, and met a slow dragging trade at a reduction of 3s to 4s per qr. White peas have been also difficult of disposal at a decline of 2s to 3s, and grey and maple 1s to 2s lower.

By advices from Montreal, dated the 27th January, we find that the supplies of wheat had become limited, owing to the bad state of the roads, and that the continued advance in the markets of the United States had had a corresponding effect both in wheat and flour. Lower Canada red wheat had realised as much as 8s 3d to 8s 6d per minot. Superfine flour was held as high as 60s per barrel, being extremely scarce, 55s to 57s 6d having been paid, and for fine, 52s 6d per barrel.

Comparative statement of arrivals, tonnage, and emigrants at the Port of Quebec, for the last fifteen years.

	Vessels.	Tonnage.	Emigrants.
1822	586	146188	10468
1823	542	131862	10258
1824	603	148581	6515
1825	762	191614	9079
1826	794	178792	10731
1827	600	152764	16862
1828	701	183255	11697
1829	861	234301	13356
1830	855	225138	24391
1831	1009	259878	49250
1832	941	248038	51422
1833	1007	271147	22062
1834	1122	315863	30217
1835	1132	323305	11580
1836	1183	353505	27513

At Sydney, New South Wales, the large arrival of 22,000 bushels of British wheat had had no effect on the prices, which remained at from 7s to 9s per bushel. Flour steady at 18s to 23s. At Launceston, on the 11th August, wheat had receded in value, and was then quoted at 6s to 6s 6d per bushel, and at Hobart Town the article was noted at 6s to 8s. At Jamaica the imports of the past year have been 6,260 barrels less than the imports of 1835, but the stock remaining was rather considerable, owing to the fact of the imports during November and December having been much larger than the average of the year; the range of prices has been also 16s 8d to 20s 4d per barrel higher than those of the previous year, in consequence of which the consumption has materially fallen off. The supplies latterly have consisted of German flour shipped from London and Liverpool, and as it is neglected by the bakers, the only vent for it was for the country trade or for re-

export, and the demand consequently limited; the last price was 60s duty paid, or 50s for export.

At Bilboa the scarcity of flour and grain has induced the government to open the port for the admission of these articles from abroad under the following restrictions: the permission to remain in force for two months after the date of the order of the 20th of January.

Grain.	Measure or weight.	Rate of Duties in either Spanish or Foreign vessels.
Wheat	per fanega	4 reals vellon
Indian Corn	do.	3 ditto
Barley	do.	2 ditto
Oats	do.	2 ditto
Wheat Flour	per quintal	4 ditto
Indian corn meal	do.	3 ditto

It may be noted that at the above city 100 fanegas are equal to 20 qrs 7 bushels imperial measure, and 8 reals vellon equal to 1 dollar, or about 4s 6d.

At Paris and the environs purchases are still being made for export, principally to Bordeaux, deliverable on board at Rouen at 17 francs per hectolitre, or about 38s 9d per qr; this continued demand, notwithstanding the abundance of stock, causes prices of wheat to be maintained though those of flour are receding. At Bordeaux, wheat obtains 47s 8d to 53s per qr, the currencies having further improved, both of wheat and flour, owing to the demand being experienced from many important points of Upper Languedoc, and the firmness of the prices on the coast of Brittany, owing to the demand in that country to satisfy its own internal wants, forces purchasers to draw resources from those districts usually supplying the demand of the metropolis. At Marseille the trade was ruling extremely dull, and the demand almost confined to the local consumption, the department of the Var, whose necessities the merchants at Marseille had calculated upon supplying, is receiving imports direct from Brittany at most of even the smaller ports. Bonded wheat is quite neglected, and only meets sale to be ground into flour for export. Barletta wheat free was noted at 58s 6d to 59s 3d. Lower Loire, 52s 3d.

The Italian markets remain very languid. At Naples the best samples of Barletta wheat were noted at 35s 8d, but the rates would not be maintained unless a foreign demand was experienced.

At Trieste the receipts of wheat being unusually heavy, prices had receded, Italian, Banata, and Odessa, noted at 25s 8d to 36s per qr.

At Genoa, the currencies were expected to be maintained, and several thousand minas were being shipped to America. At Leghorn, Tuscan white wheat was held at 51s 10d, red 40s 1d; Odessa, 36s to 40s 4d. At Venice, owing to the anticipated large supplies of wheat from the Black Sea, the trade was dull, and prices nominally 34s 4d.

In Russia the grain trade remains in a dull state. At St. Petersburg, Kubanka wheat was noted at 32s 1d for May delivery; oats, 12s 7d to 12s 11d; rye, 17s, and Morschansky linseed at 38s 5d; other descriptions nominally at 35s 9d to 37s 1d per qr.

From Riga it is stated that the crops of wheat in the interior having been favourable, supplies will be coming forward for export the ensuing season; but that the culture of wheat in Courland had been much diminished, and the stock was not calculated to exceed 30,000 qrs. The exports to America had comprised 1,930 lasts of wheat, and of rye 2,720 lasts. Of crushing linseed the exports the past year had exceeded those of 1835, by 90,000 barrels, England having received more than half of the total shipments. Wheat was noted at 31s 8d; crushing linseed, 38s 7d to 40s 7d. At Königsberg the trade was dull, with a limited extent of business transacting. The communications with the interior were much impeded by bad roads and the want of snow, when the obstacles were removed a plentiful supply of grain was expected.

At Memel, there are stated to be several parcels of linseed in warehouse; and in the interior of Poland considerable stocks, owing to the early frost in November having suddenly closed the river navigation, and suspended purchases; good crushing quality is quoted at 45s; and good seed might be contracted for in Poland at 40s. The wheat trade had become much depressed by the continued dull accounts from England, speculators having for some time buoyed up their hopes that the decline in our markets was only temporary; but until positive offers are made, it is difficult to ascertain at what rates purchases might be made, as in the small towns and among the landholders, there is during the winter season a great want of money, which facilitates materially immediate purchases. High mixed Volhynian wheat of 61 to 62lbs was nominally quoted at 37s to 38s.

At Danzig the latest accounts intimate that the thaw had set in, and as soon as the navigation of the Vistula had recommenced, large supplies were expected from Poland. Some sales of high mixed wheat had been making for Scotch account at 35s to 37s. Rye remained at 18s to 18s 6d per qr, and for delivery in May and June, 17s 6d to 18s. Flour, first quality, 24s per brl. Biscuits, A, 12s per cwt. At Stettin good Silesian Wheat was to be obtained at 30s to 31s; but Uckermark qualities were difficult to procure, as farmers were obtaining better prices at Berlin for the consumption. Peas, 24s. Oderbrück Barley, 19s. Vessels were readily to be obtained, but it was feared Danzig Houses would offer high freights to induce them to load at their port. The frost still continued. At Rostock prices of Wheat had receded to 32s and 33s, and orders executing at these rates. Rye, 21s to 22s; Barley, 19s to 20s; freights to London, 4s 3d to 4s 6d per qr; Liverpool, 4s 9d, New York, 10s.

At Lubeck and Kiel, prices of Wheat were extremely firm at 32s for best Holstein quality, owing to the sanguine opinion in favour of the article on the part of many speculators and farmers; the latter of whom having now paid their rents, are not anxious to quit. Several purchases had been previously made on Liverpool account at from 32s to 33s 6d, and the favourable reports from America combined

to keep up the currencies; barley, 19s to 19s 6d; no new oats to be had, being used for feeding; rape-seed, 27l to 28l free on board. At Hamburg, the navigation of the Elbe being again free, more business was being transacted; several parcels of old Upland, Brunswick, Marks, and Saale qualities of wheat had been taken for export, and grinding into flour for shipment at rather improving prices, and purchases of new had been made at fully former rates. New Marks wheat of 61lbs had sold at 36s, and fine old at 40s; but with part of the purchase-money advanced it was expected that good qualities would be even obtainable at 35s 6d to 35s 8d per qr. Saale barley had been sold at 20s for English account. Large tares were offering at 30s per qr. Danish, 20s 6d to 21s 6d per qr.

At Rotterdam the receipts of Wheat having been considerable prices had given way 1s per qr; fine old Zealand had obtained 37s to 39s; new, 27s to 34s; red Rhenish, 61 to 62lbs, 35s, for shipment to America, but at these prices more sellers were coming forward than purchasers. Oats inquired after, and good Polands of 41lbs had realized 16s 6d. Tick beans, 20s to 22s.

Letters, dated New York, 2nd Feb. state that the flour market was extremely dull at the advanced rates of 11 dollars 87½ cents to 12 dollars per brl for Western Canal brands, and could be only realized in small parcels for immediate consumption. German red wheat continued selling at 2 dollars 12½ cents, and Danzig at the same terms. No rye at market, and 1 dollar 50 cents still quoted. Cloverseed, fine, 12 to 12½ cent per lbs. Flaxseed much cheaper. At Baltimore, notwithstanding the extent of the imports a free sale was being experienced for foreign wheats at even improving prices. Some parcels realising 2 dollars 15 cents and a fine cargo of Königsberg wheat of 2,300 qrs, brought 2 dollars 22 cents, and extra fine white 2 dollars 25 cents. Howard Street Flour was rather dearer, having brought 10 dollars 75 cents; European rye had been sold as high as 1 dollar 50 to 70 cents. No Maryland wheat offering. At New Orleans prices had materially declined, and superfine flour bought a week before at 12 dollars to 12 dollars 50 cents was to be obtained at 9 dollars 50 cents to 10 dollars per brl.

CURRENCY PER IMPERIAL MEASURE.

	BRITISH.		FEB. 1.		MARCH 1.	
	s.	s.	s.	s.	s.	s.
Wheat, red, Essex, Kent, Suffolk.....	50	62	50	62	50	62
White.....	52	64	52	66	52	66
Norfolk, Lincolnshire and Yorkshire... 40	56	40	56	40	58	58
White, do. do.	46	60	46	62	46	62
West Country Red	—	—	—	—	—	—
White, ditto.....	—	—	—	—	—	—
Northumberland and Berwickshire Red ..	—	—	52	56	52	56
White, ditto.....	—	—	52	56	52	56
Irish Red	—	—	48	50	48	50
Ditto White	—	—	50	52	50	52
Barley, Malting, new	35	39	35	38	35	38
Chevalier, new.....	38	41	37	46	37	46
Distilling	31	35	31	34	31	34
Grinding.....	27	30	26	28	26	28
Irish	24	30	24	28	24	28

	FEB. 1.		MARCH 1.	
	s.	s.	s.	s.
Malt, Brown	47	52	46	50
Ditto, Chevalier	61	62	60	61
Ditto, Norfolk and Suffolk Pale	54	60	54	59
Ditto Ware	59	61	58	60
Peas, Hog and Grey	34	36	32	35
Maple	36	36	32	35
White Boilers	28	41	36	38
Beans, small	40	46	40	42
Harrow	41	44	38	40
Ticks	38	42	36	38
Mazagan	36	40	31	38
Oats, Excelsior feed	25	2d 23	23	27
Short small	27	29	26	30
Poland	28	30	27	30
Scotch, Common	23	28	23	29
Berwick, &c	28	30	25	30
Potatoe, &c	29	31	26	31
Irish, Feed	17s 0d to 26s 0d		12s 0d to 23s 0d	
Ditto Potatoe	21s 0d 27s 0d		20s 0d 28s 0d	
Ditto Black	18s 0d 25s 0d		17s 0d 24s 0d	

PRICES OF FLOUR,

Per Sack of 280 lbs.	FEB. 1.		MARCH 1.	
	s.	s.	s.	s.
Town-made	50	55	48	55
Norfolk, Suffolk, Kent, and Essex	43	46	43	44
Sussex and Hampshire	42	45	42	43
Superfine	46	—	44	—
Lincolnshire, Yorkshire, and Stockton	41	45	41	43
Northumberland, Berwick, and Scotch	42	44	42	43
Irish	42	48	42	45
Extra	50	—	47	—

An Account of the Quantity of Grain and Flour imported into the United Kingdom during the month ending the 5th Feb., 1836; the Quantity on which the Duty has been paid for Home Consumption, and the quantity remaining in Warehouse.

	Wheat.	Barley.	Oats.	Rye.
	qrs.	qrs.	qrs.	qrs.
Quantity imported	4,831	18,341	14,279	3,830
Do. entered for home consumption	1,934	1,934	11,363	10,595
Do. remaining in warehouse	578,828	5,537	216,953	58
	Peas.	Beans.	Maise.	Flour.
	qrs.	qrs.	qrs.	cwts.
Quantity imported	12,655	7,646	117	11,039
Do. entered for home consumption	13,896	14,581	117	194
Do. remaining in warehouse	2,166	457	18	174,258

IMPERIAL AVERAGES.

Week ending	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
13th Jan.	59 0	35 9	24 11	44 6	41 0	10 4
20th "	59 6	36 1	24 6	33 9	41 6	10 7
27th "	59 1	36 0	24 3	41 10	40 5	10 6
3rd Feb.	58 9	35 11	24 2	41 3	41 2	10 3
10th "	57 3	35 2	24 4	41 8	40 5	10 7
Aggregate average of the six weeks which regulates the duty	58 4	35 6	24 4	41 2	40 8	10 3
Duties payable in London till Wednesday next inclusive, and at the Outports till the arrival of the Mail of that day from London	28 8	9 4	10 9	8 0	9 6	11 0
Do. on grain from British possessions out of Europe	5 0	0 6	2 0	0 6	0 6	3 0
Foreign Flour, 17s 3d per 196lbs. British Possessions do. 3s per 196 lbs.						

PRICES OF SEEDS.

FEB. 23.

The supplies of Cloverseed from abroad, without being large, are still liberal, and contribute in keeping the trade in Foreign qualities dull. From Hull we have received coastways 43 casks and 123 bags, from Rotter-

dam 40 bales; Havre 295 bags; Antwerp, 24 do; Trieste, 48 casks. The fresh samples of English were moderate, and though there were several parties from the country at market, yet the actual business transacting was limited, and no demand for the moment being experienced from Ireland, prices of red sustained no improvement, while white samples hung on hand with a tendency in quotations to recede. Trefoil extremely dull. Linseed meets little attention, though to be obtained on lower terms. Rapeseed quite nominal. Fine Coriander is scarce, and fully as dear; in other qualities little doing. Caraway neglected. Canary is only saleable at lower terms, say 38s to 40s, fine 42s to 43s. Mustard meets occasional purchases at former prices. Tares move off at 6s for good samples, and large fine foreign or English have obtained 9s. Rape Cakes steady. In Linseed little doing. The supplies of foreign have been limited and amount only to 76 tons of Linseed Cake from Dunkirk.

WOOL MARKETS.

BRITISH.

Per lb.	FEBRUARY 1.		MARCH 1.	
	s. d.	s. d.	s. d.	s. d.
Down Tegs	1 8 to 1 9		1 8 to 1 8½	
Half-bred do	1 9½ to 1 10½		1 8½ to 1 9½	
Ewes and Wethers	1 5 to 1 6		1 5 to 1 5½	
Leicester Hogs	1 5 to 1 6		1 5 to 1 5½	
Do. Wethers	1 2 to 1 3		1 2 to 1 3	
Blanket Wool	0 8 to 1 4		0 8 to 1 2	
Flannel	1 2 to 1 9		1 2 to 1 7	
Skin Combing	1 2 to 1 6		1 2 to 1 4	

EXETER.—The state of the money market, with us, no where so completely develops itself as with reference to this article, in which operations appear to be no longer carried on in that broad and confidential way they were wont, but to be guided solely by momentary necessity. The pulsations consequently evince nothing like regularity; indeed, on the contrary, but too plainly give evidence of something wrong in the system. The manufacturers complain of the great depression under which they labour, and assert the necessity of proceeding with circumspection and more than ordinary caution; as also, that the difficulties in the way of obtaining any thing like a fair return for piece goods has rarely exceeded what is experienced at present. Influenced then in this way, the price of yolk wool has again receded; indeed, at the opening of the market, 12d per lb. was the sum offered, nor from this were the usual frequenters of it for purchase moved; in truth, some of them were careless of purchase on those terms. As the afternoon, however, progressed, an agent from the South made his appearance, and offered 12½d; yet, still, little business was done, and we have to quote yolk wool from 12d to 12½d per lb. Washed wool also, is gone back to 15d; and Dorset horn to 16d per lb. In sorts, things are extremely dull; indeed, it is not easy to tempt to business, and we have to quote Kent head from 11½d to 11¾d; red, green, and pinions, 12½d to 12¾d; fell combing, 14½d to 14¾d; fine head, 14¾d to 15½d; Cornish stripe, 16d; North Devon stripe, 16½d to 16¾d; tops, (river washed), 20d to 20½d; ditto, (soap washed,) 20½d to 21d per lb.

WAKEFIELD, Feb. 17.—We have again to report an exceedingly dull sale for Wool, and what few sales have been made of both long and short Wool are at about ¾d per lb below the prices that were realized a month ago.

MODBURY, Feb. 14.—Wool was on the decline and few buyers on the market, it made from 12½d to 12¾d per lb.

DODBROOK, Feb. 15.—Wool was also on the decline and very few purchasers in attendance, it made at from 12½d to 12¾d per lb.

LIVERPOOL.

WEEK ENDING FEBRUARY 20.

ENGLISH WOOLS, in which there has been very little doing, may be bought on more advantageous terms than

formerly; short wools may be quoted at ½d, and combing wools ¾d to 1d per lb lower. The demand for every description of English wools has of late been extremely meagre.

Current prices per lb.—Downes and wethers, 18d to 19d; Down tegs, 19½d to 20½d; combing fleece, 18d to 19d; combing skin, 17d to 19d; super skin, 17d to 19d; head skin, 15½d to 16½d.

SCOTCH WOOL.—We have to notice a very dull week in Cheviot, cross and white Highland wools. The transactions have been very trifling, and prices barely supported. In laid Highland about an average business has been done, and prices continue firm.

	per stone of 24lbs.	
Laid Highland Wool, from	12s 6d	13s 0d
White do. do.	15s 0d	16s 0d
Laid Crossed do.	15s 0d	16s 0d
Washed do. do.	16s 0d	17s 0d
Laid Cheviot do.	18s 0d	20s 0d
Washed do. do.	26s 0d	28s 0d
White do. do.	32s 0d	36s 0d
Import for the week	60 bags.	
Previously this year	265 do.	

IRISH WOOLS have been in rather more request during the present week than for some time previously. One large parcel, containing a proportion of hog, was bought a day or two back at 18½d, which in the existing state of the market, may be considered a fair price. Some small lots of Irish combing have been sold at 16½d.

Current prices per lb.—Irish fleece, mixed lots, 18d to 19d; Irish wethers, 18d to 18½d; Irish hogs, 18½d to 19½d; Irish combing skin, 15d to 16d; Irish short skin, 13d to 16d. Imports this week, 85 bags; previously this year, 342 bags.

FOREIGN WOOLS have been bought with some freedom during the week. On Monday 100 bales of Italian were sold at 9d. The stock of foreign wool here is large; and it has been considerably increased by a recent arrival, the Elizabeth, from Sydney. A public sale will, probably, take place in the course of a week or two, the announcement of which will be made immediately. Until then, there will be little, if any, business transacted by private hand, as parties wishing to buy will reserve themselves for that occasion.

Current prices per lb.—Russian wool, 8d to 9d; Odessa, fine, 1s 9d to 3s 3d; Buenos Ayres, 4d to 5d; Mogadore and Barbary, 4d to 6d; washed Peruvian, 12d to 14d; unwashed ditto, 9d to 10d; Portugal R., 1s 4d to 1s 6d; ditto, low marks, 1½d to 1s 1½d; German fleeces, 2s to 2s 3d; ditto assorted, 2s 3d to 3s 6d; ditto lambs, 2s 3d to 3s 3d; Spanish R, 2s 3d to 2s 6d; ditto F S, 2s to 2s 2d; New South Wales, 2s to 2s 9d. Imports this week, 654 bales; previously this year, 3,219 bales.

SCOTCH.

Per Stone of 24 lbs.	FEBRUARY 1.		MARCH 1.	
	s. d.	s. d.	s. d.	s. d.
Laid Highland Wool, from,	12 6	13 6	12 6	13 0
White Do. Do.	15 0	16 0	15 0	16 0
Laid Crossed Do.	15 0	16 0	15 0	17 0
Washed Do. Do.	16 0	17 0	16 0	17 0
Laid Cheviots.	18 0	20 0	18 0	20 0
Washed Do.	26 0	28 0	26 0	28 0
White Do.	32 0	36 0	32 0	36 0

FOREIGN.

FEB. 20.

The past week's supplies have consisted of 200 bales from Spain; 280 do from Germany; and 120 do from the Cape of Good Hope. Since the conclusion of the late sales, the prices of wool have shown a disposition to decline, chiefly on account of the scarcity of money. Most of the provincial markets are, at this time, heavily stocked with woollen goods, and a general dullness is complained of. A general depression of about 2d per lb has been submitted to. Private contract demand, since day se'night, has been chiefly confined to a few limited sales of German and Spanish wools, at barely the above-mentioned depression.

Electoral Saxony wool, from 4s 4d to 5s 4d; first Austrian, Bohemian, and other German wools, 2s 8d to 4s; second do., 2s to 2s 6d; inferior do. in locks

and pieces, 1s 6d to 2s; do. lamb's do., 2s 6d to 3s; Hungarian sheep's do., 2s to 2s 6d; Leonesa sheep's do., 2s 6d to 3s 2d; Segovia do., 2s to 2s 4d; Soria do., 2s 2d to 3s; Caceres do., 2s 6d to 3s; Spanish lamb's wool, 1s 6d to 2s 6d; German and Spanish cross do., 2s 2d to 3s 4d; Portugal sheep's do., 2s 4d to 2s 10d; do. lamb's do., 1s 2d to 2s 6d; Australian, fine crossed do., 2s 4d to 3s 6d; do. native sheep's do., 1s 6d to 2s 6d; Van Diemen's Land native sheep's do., 1s 6d to 2s 6d; Cape of Good Hope do. 1s 6d to 3s.

REVIEW OF THE HOP TRADE,

FOR THE MONTH OF FEBRUARY.

A considerable heaviness has prevailed in the Hop market throughout the month, and prices have rather declined, except for the very choicest descriptions. This market has been seriously acted upon by the difficulty experienced by the merchants and dealers in obtaining cash, and a discount for their acceptances in trade. Many of the planters, still holding their growths, will sell for cash only: the factors find much difficulty in effecting sales, the demand being very limited, principally occasioned by the general scarcity of money.

The low quotations of prices, and the wet state of the land, which must be injurious to the plant, has induced some few speculators to come on the market; and, unless the weather changes soon for the better, it is most probable their operations will be attended with success, by an advance of prices.

PRESENT PRICES.

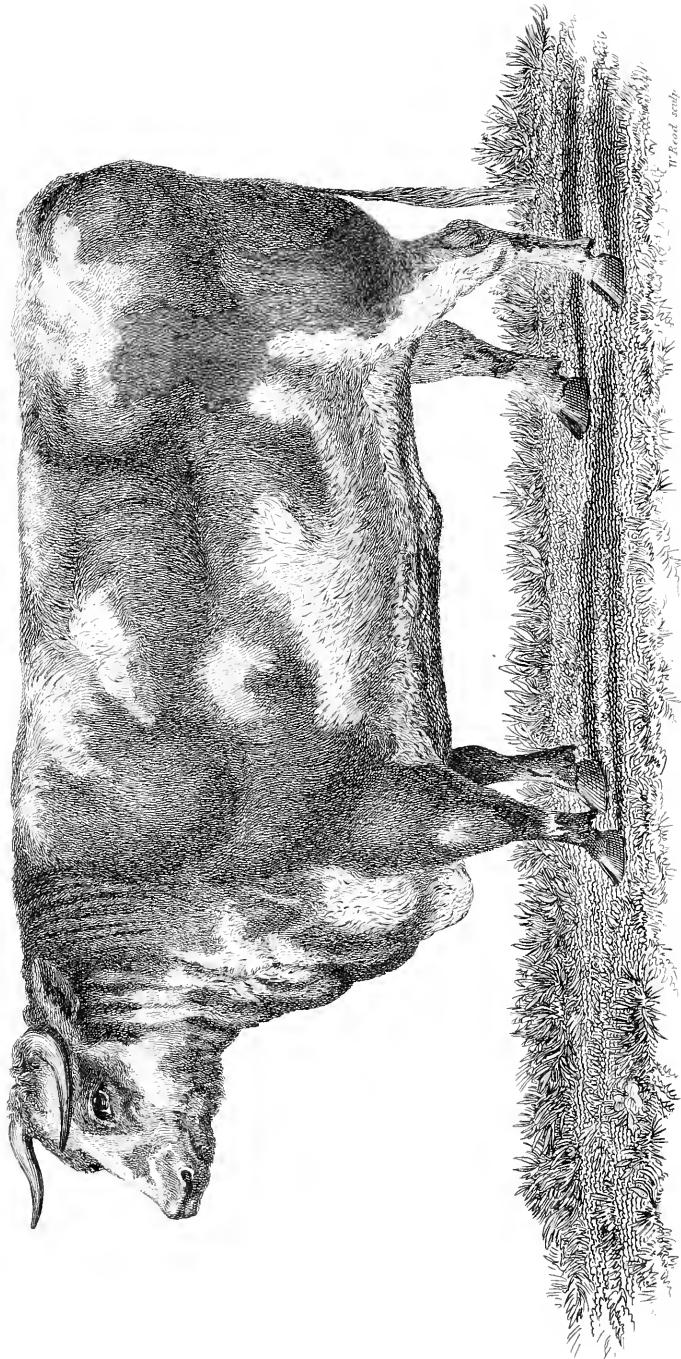
	£. s.	£. s.	£. s.
East Kent Pockets	4 10	— 5 5	fine 6 15
Bags	4 4	— 4 15	— 5 12
Mid Kent Pockets	4 2	— 4 15	— 6 6
Bags	3 10	— 4 10	— 5 12
Weald of Kent Pockets	3 10	— 4 10	— 5 10
Sussex Pockets	3 10	— 4 4	— 4 15
Yearlings	2 10	— 3 3	— 4 4
Old olds	1 1	— 1 10	— 2 2

N. B. The growers of Kent applied to Mr. Hodges, their County Member, to get the first instalment of duty upon last year's growth (which is usually payable in March) put off, till a more convenient period. This gentleman, jointly with the trade made application to that effect, and succeeded in getting the duty deferred till the 1st May next, which is a considerable relief to the planters, who have not succeeded in selling their hops.

POTATOE MARKET.

SOUTHWARK, WATERSIDE, Feb. 20.—A change of wind having taken place, several of the expected cargoes of potatoes have been received; from Yorkshire about 1,500 tons; Scotland, 300 do.; Devonshire, 800 do.; Essex and Kent, 300 do.; and from Guernsey and Jersey, 600 do.; but none from Ireland. The limited receipts of Yorkshire and Scotch reds which have latterly come to hand, causes the demand for these qualities to continue tolerably good, Devonshire parcels, however, being taken at 10s per ton less money than this day se'night. Some buyers are, however, still holding off in anticipation of a reduction in the currencies, and as the consumption is materially influenced by the weather at this season of the year, we are likely with a mild temperature to see lower rates by 10s per ton, as soon as the immediate demand has been met.

Per ton or 40 bushels.	
Yorkshire reds	90s to 100s
Scotch do.	50s 50s
Devonshire do.	95s 100s
Kidneys	100s
American natives	90s
Essex Whites	80s
Jersey & Guern. blue	85s 90s
Do. whites	80s
Kent Kidneys	90s
Chats	40s 50s



A FAT OX.

The property of Mr. A. Dalrymple, of Inghislen, Forfarshire, exhibited at the meeting of the Highland Agricultural Society held at Perth, Oct. 7th 1836

Engraved and Published by J. Beckett, April 11 1837

THE FARMER'S MAGAZINE.

APRIL, 1837.

No. 4.]

[VOL. VI.

THE PLATE.

The animal which forms the subject of the Plate is of the mixed breed, being a cross between the Angus and short-horn. It was the property of Mr. A. Dalgairns, of Ingliston, Scotland; was exhibited by him at the Highland and Agricultural Society's Show, at Perth, in October last; and obtained a premium as being "the best fat ox of any breed, pure or cross, except the short-horn;" calved after 1st January, 1832.

SYSTEM OF CULTIVATING THE MANGEL WURZEL, AS PRACTISED ON THE FARM OF PRESTON MAINS, IN EAST LOTHIAN.

BY G. KIRK, RESIDING AT PRESTON MAINS, N. B.

From the circumstance of the mangel wurzel having been under cultivation in this country for a great number of years, and its properties so well, and so generally, understood, it will be no news to the great majority of farmers of the present day to be told, that it is a vegetable possessed of qualities of the greatest utility to every one, at all interested in the management of live stock, but more especially so to the dairy farmer, as its laxative tendency will in all probability prevent its being extensively used in the fattening of live stock; but although a vast proportion of the agricultural community may have been made aware of its qualities, through the medium of the agricultural and other periodicals of the day, which now daily emanate from every city in the empire, and carry to every corner of the land a knowledge of the arts and usages of civilized life, and steadily disseminate that seed, the fruit of which will at no distant day be reaped, in the shape of a universally civilized intellectual Britain; yet it may be, that a knowledge of the most proper way of cultivating it, is not so generally diffused. Be it our task then to supply this information.

Before entering more immediately upon a description of its tillage, it may be proper to remark, that the mangel wurzel seems to thrive best, and to attain the greatest degree of perfection on that description of soil, generally known in Scotland as "good turnip land": that is, a rich mellow loam; soils of an extremely cohesive or light description, are unfit for this root; but, good crops have, nevertheless, been raised on soils of medium

quality, but it is in general grown on the superior portions of the farm.

The soil on which this sort is intended to be cultivated, should be turned over if the season admit, towards the conclusion of autumn, or as early in winter as possible, in order that the soil may be subjected for as long a period as possible, to the subduing influence of winter frost. About the end of April, or beginning of May, preparations should be made for seed time, the seed being in general put in about the middle of the month; and, here no expense should be spared, and no effort unexerted, by repeated ploughing, harrowing, rolling, and hand-picking, to effect a complete pulverization of the soil, and a thorough eradication of root weeds, as the fate of the future crop, in a great measure, depends on the perfect performance of these processes.

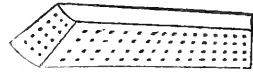
After the soil has been completely pulverized and cleaned, the drills or ridgelets are drawn off by a double turn of the plough, or what in farming phraseology is styled a "bout", to about 27 inches apart. The manure (which is administered to this, in a somewhat greater proportion than to the generality of green crops) is then carted in, and spread by boys or women in the intervals of the drills, and covered in by reversing the ridgelets. The common turnip-sowing machine (the hind roller being tied up or removed) is then sent over the drills, the spouts of which make a slight excavation in their centre, which serves as a guide to the planters, who having received a quantity of seed, which is carried in an apron or bag suspended before them, proceed as follows: being provided with a piece of wood ten inches in length, which is the distance generally kept between the plants in the drills, and which is placed in the excavation made by the spouts of the turnip-sowing machine, three of what are generally called seeds are placed at both its ends in the ground, by pressing them down with the finger or thumb, but *de*

facto, what is generally called a seed, is just a cluster of capsules or seed-vessels, each containing one seed, and each enveloped with its particular calyx or flower cup; to this circumstance in a great measure is to be attributed, the frequent failures of this crop, moisture being precluded from reaching the seed, on account of the hardness of the calyx or capsule, and for this reason, *seeds should never be placed more than one inch below the surface*, in order that they may have the full benefit of the midnight dews, and genial showers of early summer. When placed in the ground, as already described, the piece of wood is pushed forward, until the end next the planter is immediately above the seeds last planted, and a similar number of seeds are put in at the further end, and so on till the process of planting is completed, after which the land should receive a slight rolling to level and consolidate the drills. After the plants have been about four weeks above ground, they should be singled out with the hand, in which case the strongest plants should be left in the soil, and the weaker ones removed, and blanks (should any appear) may be made up with the extra plants; and during the season the intervals between the drills and plants should be carefully kept free from weeds, by repeated horse and hand-hoings, till the leaves of the plants begin to approximate in the drills, and to form a leafy canopy over the intervening space, after which they will of themselves, by intercepting the light, effectually exclude all rival vegetation: and, before leaving this part of our subject, we beg to impress the farmer with a sense of the necessity of his performing these hoeings, whenever weeds appear, as the condition of the crop of mangel wurzel, and the wheat one by which it is in general followed, in a great measure depend on their frequent and effectual execution; for every farmer must know, that by frequent stirrings of the soil, and by extirpating weeds, the growth of plants is promoted in a great degree, for by keeping the soil around plants in a loose state, we increase as it were the sphere of action of their roots, and thereby enable them to obtain their food in greater quantity, and by extirpating the natural occupants of the earth, we give the cultivated crop the benefit of that nourishment, which would fall to support the spontaneous products of the soil; in consonance with this theory, we invariably find, that crops growing on a soil which is kept free from weeds, and well wrought, are always superior to those which may be placed in opposite circumstances. But to return from this digression.

When arrived at maturity, which in ordinary seasons will be about the end of October, the leaves should be cut off as close to the body of the root as possible, without touching the body of the root itself, as if the part from which the leaves shoot out be entirely removed and the root laid bare, a night's frost will entirely ruin the crop; making an incision into the body of the root, therefore, should be studiously guarded against. But previously to removing the leaves altogether, the lower ones for a considerable time previous to removing the crop from the ground, may be wrenched off with the hand, and given to cows in the house; and here, a great benefit is derived from the mangel wurzel coming in at that period, when the chillness of evening usually renders it necessary to house milch cows for the night, for which (and the same description applies to the roots) they form a superior species of food, as they increase the milk, without imparting to it that acid taste

which turnips do, and when at last it becomes necessary to remove the leaves of the whole crop, with a view of having the roots stored, they may be carted home, and deposited in any convenient spot out of doors, and in this state, unprotected from storms, they will keep without sustaining any material injury for weeks, nay months, and are devoured to the last by milch cows, even when almost putrid, with the greatest avidity. We think it right to warn the farmer against beginning too early to remove the leaves, as we have invariably found that the roots never increase in size after the bulk of their leaves are removed.

We come now to the consideration of a very important portion of our subject, and that is the manner of preserving the roots throughout the winter; and for this purpose the longitudinal form of the mangel wurzel, affords considerable facilities. The system of storing uniformly practised by us, is much the same as that pursued by gardeners in the storing of carrots. We form them into large heaps, about six feet wide at bottom, gradually tapering as they ascend, till a width of from two to three feet is attained at top and a height of five, and the heaps of course made of any convenient length. Perhaps, the following figure will convey a better idea of the shape of the heaps, than the most laboured verbal description.



After the heap is finished, it is thatched with straw to about six inches in thickness, and roped down, which is found sufficient to prevent injury from the severest frost, and to preserve the roots fresh and juicy, till an advanced period of the summer season. We have likewise stored them in houses, and have found this system to answer equally as well as the first; but when stored in any quantity in-doors, the heap should be intersected with air passages (which are easily formed with the roots themselves) to prevent heating.

As hinted in a preceding paragraph of this paper the mangel wurzel has a tendency when given in any considerable quantity, to produce laxity in cattle: in using it, therefore, in the fattening of live stock, we studiously avoid giving in large quantities or by itself; and, aware that cattle after accustomed to it will forsake every other description of food for its sake, it is never allowed them till the spring months, and they are well nigh fit for the shambles; it is then given in conjunction with one or other of the common varieties of turnip, and we have invariably witnessed a rapid improvement in the condition of the animals after receiving it; and so fond do they appear of it, that, although mixed indiscriminately with other descriptions of food, it is carefully picked out, and when given at stated periods, they seem to be aware either through instinct, or by the cravings of appetite, of the arrival of the period of feeding, and invariably at the wanted time, collect in a group and fix and eager, anxious gaze, on the spot from whence they expect to be supplied with their darling sustenance.

But it is chiefly as food for dairy cows that the mangel wurzel is adapted, and as such is superior to every other description of winter food, of which we are aware. It is a material point with the dairy farmer, to procure food for his cows that will not impart acidity to the milk; and mangel wurzel is the only succulent winter vegetable, which possesses this quality, and doing so consti-

tutes a most valuable species of food for cows at that season when succulent food possessing the above very essential quality can never be obtained.

The foregoing remarks being a description of a system of cultivating the mangel wurzel, and using it as food for live stock, which has been attended with eminent success, we can confidently submit them to be acted on by all who feel desirous of cultivating this valuable vegetable.

HILLYARD'S PRACTICAL FARMING.

It has often been a source of regret to us, that so few publications upon agricultural subjects appeared from the pens of practical agriculturists. When the first edition of Mr. Hillyard's "Practical Farming" was announced, we hailed it with much satisfaction. A perusal convinced us that our anticipations were by no means too sanguine. We have now lying before us a second edition of that valuable little work, which we can recommend to our agricultural readers as a work purely practical. The reputation of the author as a practical farmer and grazier is highly appreciated in his own county, (Northamptonshire) and he is well known to all the leading agriculturists in the kingdom. As the New Poor Laws form the subject of such fierce discussion at the present moment, we cannot do better than give an extract, setting forth Mr. Hillyard's views on the effect of that measure.

If landlords would request their tenants to take farming men and boys into their families as they formerly used, it would bring up the rising generation of the peasantry to more orderly habits, and in a very great degree prevent that great source of evil amongst them, improvident early marriages. The youth of agricultural parishes have of late years been under no control after six o'clock in the evening; consequently from an unrestricted intercourse with the young females of the parish, the greater part of them have been obliged to marry; and thus, in the agricultural population, the chief part of the marriages, of late years, has not been of men and women, but of boys and girls, who, relying on their parish funds, never had one thought how themselves, and the children they might have were to be maintained. The Poor Law Amendment Act, which, in its operation has exceeded the most sanguine expectations, will greatly correct this evil, without pressing in any manner hard on the really indigent poor. The poor-rates of the populous agricultural parish in which I reside, have been reduced nearly one-half. My opinions on poor laws are the same I publicly expressed more than twenty years ago: which were, that all persons in the kingdom who possessed property should be answerable to those who had none; that if, from age or infirmity, they were incapable of working for their livelihood, they should have relief from their parishes; and that those who were capable—if they could satisfy the overseers that it had not been in their power to procure work—their parish should be bound to find it for them, or to give them such relief as would keep them from starving; that if the laws did not afford them this protection, they could not be justly called upon to uphold the laws by serving in the militia, or in any other manner. The act of Elizabeth gave them this protection. The Poor Law Amendment Act has not in any way lessened it; its enactment was only for the purpose of correcting the abuses which had crept into the poor laws, and thus preventing idle and improvident labourers from being as well off as the hard-working and provident. So ill-managed have been the affairs of the parish I reside in, that, in some parts of the year,

from five, to fifteen, or more, pounds weekly, have been paid to labourers doing no work whatever; for whether they had, or had not, endeavoured to obtain work, they had only to go to the Assistant Overseer by seven o'clock in the morning, to have their names entered, to receive the Justices' allowance for labourers out of employ. Many, therefore, who seldom worked but when they could get high wages by working by the great, had more money coming in, during the course of the year than those who worked every day.

Previous to the Poor Law Amendment Act, I was a strenuous advocate for the labour rate system, which appears not now needed, but possibly may be when all the contemplated public works are executed, and the demand for labour lessened, or should a case like the following occur. The time may probably come, although at a distant period, that in some long frost, large bodies of agricultural labourers, of different parishes may apply to their respective boards of Guardians for employment or relief. It would therefore be advisable previously to deliberate on what it would be right to do in such a case, instead of leaving the consideration of it to the emergency of the occasion, when it is doubtful whether the wisest measures would be adopted; besides which, each board might be liable to act differently.

Men who have been receiving more than ordinary wages, ought, we know, to have put by enough to provide themselves and their families with necessaries for any short time that they may be out of work; but should they not have been so provident as they ought to have been, means must be provided to keep them from starving. The best arrangement that could be made on such an occasion, would be for the occupiers of the land of the different parishes, each to take into his (employ perhaps at something under the wages that he gives to his other men,) his share of those men belonging to the parish, according to the number of acres of his farm. But this, probably, in most cases, would not be agreed to, many occupiers never having, in the short days of winter, one labourer more than they can possibly do without, whilst others employ the same number throughout the year, those having their full share of the labourers of the parish, would not be willing to increase their number.

It seems to be thought that out-door relief to able-bodied labourers should no longer be given; but it surely never could have been contemplated to put such a number of them as I have alluded to, in the work-house, from a temporary want of employment. From the distance that some would have to go, they could not be set to work, all at the same place, under the superintendence of a person appointed by the board of Guardians. Nor could those belonging to Moulton (and probably in other parishes), be employed in raising stones and repairing the parish roads, for there are always in winter many more so employed than are necessary, consisting of men beyond the age of what is called able-bodied. Were the board of Guardians authorized to allow, for the necessary time, the establishment of the labour rate, every man would get into employment at such wages as his labour was worth.

I am a Guardian in one of the Unions in this county, and can bear testimony to the extraordinary well working of the Poor Law Amendment Act. When attending the meetings it has often struck my mind with surprise, that the act should, without the necessity of alteration, appear fully to meet most of the various cases brought before us, and I can, as a practical farmer, contradict in the most positive terms, the assertion that has so often been made, that it tends to lessen the wages of agricultural labourers. This is only one of the many unfounded assertions against the measure. Such affirmations it is easy to make, but, though they have no foundation in fact, it is not so easy to remove the impressions they may have made on the minds of those who are not thoroughly acquainted with the subject. The decisions of a Board of Guardians are much more likely to be respected by the applicants for relief than the decisions of a parish vestry; they come with greater authority, and from those who, it must be well

known, cannot be biassed either by motives of parsimony, or by feelings of personal favour or dislike towards those who apply. The greater part of the applicants to justices for relief, were those least deserving of it. Such now well know that it will not answer their purpose to go to a Board of Guardians with a fabricated tale.

I cannot, as a guardian, see how a temporary system of labour rate could interfere with any of the provisions of the act, or could in any way be a clog to its well working; but believe it would be, as was said, a "safety-valve" to the act.

In the Assistant Poor Law Commissioner's Report of the progress and effects of the Poor Law Amendment Act, in the county of Northampton, there is, in a letter brought into the report, this assertion:—"None but the occupiers of land could understand the nuisance of roundsmen, and the labour rate system was worse." I have to say, in answer, that none but the occupiers of land in populous agricultural parishes, can have a just idea of the difficulties and perplexities that arose in the management of the poor before the passing of the Amendment Act. I am free to admit that living in a parish where it was necessary to establish the labour rate was a nuisance; but I must also say that it was a certain remedy for one of the greatest nuisances that could exist in a parish; that of having, as Moulton had, always some, and at certain times of the year as many as 40 men, paid out of the parish funds without doing any work, at least without doing any for the parish. I, in common with the other rate-payers, should have considered that person sent as a blessing, who could have instructed us how to put in practice some better system than the labour-rate, to put these men into work, and to be paid wages by their employers, instead of being paid out of the parish funds. Had I conceived that so effective a measure as the Poor Law Amendment Act was likely to be brought into practice, I should not have put myself to such trouble and expense as I did to further that object, which I then conscientiously believed would render most important services to many populous agricultural parishes. Besides going to London on purpose, when the Labourers' Employment Bill was to be brought forward, I had printed about a thousand letters, which I directed, and sent to members of both Houses of Parliament. Although the labour rate system was rejected in the House of Commons, from the mistaken prevailing idea, that all plans of it mixed up relief with wages, I have the gratification to find that all the time and trouble I bestowed on it was not entirely thrown away; for I have received the thanks of a person, a stranger to me, who, from having seen my plan of labour rate, and thinking it preferable to all others, got it established in a parish in which he occupied a large farm, before the Poor Law Amendment Act came into operation, and thus, he said, the amount of his poor-rates was lessened nearly one-half. As his Grace the Duke of Richmond, and many other noble lords of the upper House, and Sir Charles Merrick Burrell, and many honourable members of the lower House of Parliament, were most strenuous advocates for the lawful establishment of the system, during certain parts of the year, I cannot refrain from making these remarks on the assertion, that the system of roundsmen was a great nuisance, but that the labour rate system was worse.

None but those who have occupied land in populous agricultural parishes, can be aware of the disagreeable matters which used to be common at parish vestries; there being no uniformity of opinion, it was seldom that any thing effective was agreed on, and when there was, it was only adhered to for a short time. Many years of such vestry meetings have I attended in the parish of Moulton; often have I left them, regretting that I had made a purchase in the parish. Such disagreeable and ineffective meetings are now happily at an end; and, as few persons have for a greater length of time, given themselves more trouble about their parish poor, few have greater reason to rejoice in the amendment of the poor laws.

REMARKS ON THE CAUSE OF FAILURE IN THE POTATOE CROP.

TO THE FARMING SOCIETIES OF IRELAND.

GENTLEMEN,—Although much has been said and written on the culture and failure of this most valuable root, it does not appear that the evil complained of has been rendered less extensive. I am, therefore, after a careful investigation, induced to offer my remarks, with some confidence that they may prove useful. From various circumstances, which I shall state as I proceed, I am strongly impressed with the idea, that over ripeness in the seed we plant is injurious, and renders the crop more hazardous—for good potatoes, in a perfectly ripe state, and when the juices have been converted into flour, are more liable to fail as seed than those that retain more moisture, either from being planted too late to come to maturity, or from being taken up before perfectly ripe. After maturity, the next change is an approach to decay; and although you take the potatoe from the ground before it is ripe, may it not, like the pear, the apple, or the orange, become so by keeping, and remain longer in a safe state for seed than if ripeness had been permitted to take place before taking up the crop. We know that after potatoe are taken from the ground, a great change takes place; some kinds are then good at the table, others that are not become so afterwards, and some are not good after a certain period—this is a proof of progressive change; and should this last arise from over-ripeness, I am strongly disposed to conclude, that the vegetating power of the root is rendered more doubtful: and it is reasonable to believe, that the mild temperature of our winters, for some years past, has had an unfavourable and forcing influence on potatoes intended for seed, however carefully kept.

Many years ago I was well acquainted with an old and very intelligent farmer, who was in the habit of taking up his crop while the stalk and leaf were perfectly green; and he assured me, that by this practice he had completely prevented the disease called curl in his future crops: I believe it is generally admitted, that where this prevails, it nearly amounts to a failure.

I have myself frequently observed, that potatoes not much larger than peas separated from the stem, when digging the earliest crop in June, if left in the ground and excluded from the air and winter frost, will be good and sound seed the following spring;—another proof that maturity or ripeness is only essential when required for wholesome food.

I observe in the Irish Farmers' Calendar, a valuable work lately published by Edward Burroughs, Esq., the following remark, in page 338:—"I have often dug out cups and apple potatoes when the greater part of the stalks were green, but on examining the roots found the skin both firm and set, and no bad consequences followed. I have had them buried in a dry place the same day the crop was dug out, and the potatoes were uniformly sweet and sound, and kept in many instances better than those of my neighbours, which were not got out till the end of November, although both crops were planted at the same time." I have, in two different seasons, cut down the potatoe stalks with the scythe, while they were perfectly green, and carted them off for manure, that I might sow wheat on the surface, and cover the seed while digging up the crop. These potatoes kept well, and, planted out the following years, produced crops without any appearance of failure. I may also notice here, that the successful grower of the potatoe prefers taking seed from late planted

crops, which are generally in a watery state; or from those that are grown on the hills, which from their very exposed situation, and from being early cut off by the first slight frost, seldom come to maturity, or at least to perfect ripeness, but there is no doubt a change of soil is also desirable. To insure a good crop, the ground must be well prepared, the drills not too long exposed after being opened, before the manure is put in, then plant as quickly as possible, and cover up closely from the sun and air. I think injury often arises from using fresh cuts in a dry season; the moisture that should be retained to supply the bud is absorbed by the soil and air, and in wet weather they will be most liable to rot. In either of these extremes, the seed would certainly be safer if cut ten days or a fortnight before being planted, so as to give time for a film or skin to cover the cut surface; this would be the nearest approach to that certainty that attends planting whole potatoes, which, however, is objectionable, owing to the cluster of stems, the quantity of small potatoes produced, and the extra seed required. If it can be accomplished, the potatoe should go into the ground with its first vigorous buds; but, owing to the lateness of planting, these are generally rubbed off, and it is allowed to exhaust itself in the formation of new shoots, when otherwise it would have been extending its fibres in the ground. On a careful examination of the inside of a potatoe that has been treated in this unnatural way, and in an advanced stage of vegetation, there will be found a quantity of fine fibres; these are connected with the buds, and through them the sap is drawn from the pulp to nourish the shoots, and if the sap has been so far exhausted by repeated efforts, as not to give an adequate supply until roots are formed to take it from the ground, there will certainly be a failure of the crop, or in other words, we may say, the parent has failed in her supply of nourishment before her offspring is prepared to help itself, and to the food that is provided for in the soil. On boiling the potatoe that has arrived at this stage, the fibres will be easily discovered in the pulp, and it will be found to have lost much of its original flavour. The potatoe, however, may be said to have performed all its functions, but under our bad treatment we have rendered them abortive.

We should certainly act more wisely if we would take the trouble of turning over all our potatoe oftener than is usually done, and particularly those intended for seed, which would retard the growth of the buds considerably.

It cannot be doubted, that the infinite power and wisdom that has given such beauty and order to the animal and vegetable creation, has, to every species, fixed a standard period of age, which may, in some degree, be rendered shorter or longer by treatment, and the effects of soil and climate; and such as are indigenous, or not foreign to the climate they are placed in, will, in a state of nature, propagate their kinds, and prevent extinction. This cannot be expected from the potatoe.

All our choice fruit trees are accidental varieties procured from seed, and when the period of old age arrives, in such as are propagated by grafting, it is vain to expect to perpetuate them by removing a portion of the aged tree to the most healthy stalk—we carry the infirmities of the old to the intended young tree; and however excellent the former may have been, it can only be replaced by some of the varieties obtained through persevering in experiments from seed, when something resembling the lost variety may be procured, or even a superior kind may possibly be produced, but the same is not to be found; we may as well attempt to restore a

dead animal to life—an entirely new race must take place.

The seed of the potatoe apple is the source from which all the varieties of this root have been derived; and as many kinds have become extinct from their cultivation being no longer profitable, may this not be attributed to age? Is it not reasonable to conclude, that, as time advances, many of the kinds now under cultivation have become degenerate from this cause, combined with over-ripeness, rendering the germinating principle so extremely delicate as to be easily extinguished, and only succeeding under some favourable circumstances not easily accounted for, while the same seed, probably under some slight atmospheric change, will prove a total failure.

I shall now attempt, from the impression these considerations have made on my mind, to account for a partial failure from the same seed, that has, in every respect, been treated in a uniform manner. We know that a single stalk produces a number of potatoes; some of these have arrived at nearly full size, while there is a succession of others forming. There is a difference of some weeks in the age of this family, and all that are large enough are, if required, used for seed; those of the late growth containing most moisture may grow when the others fail from being more fully matured. I admit that potatoes, in a delicate and critical state, may keep better if nursed all winter in the ground where they were grown, and not deprived of any of the moisture, they would thus retain, until planted out the following year, but this on many accounts will be found very inconvenient.

In consequence of these observations, I am induced to believe also that much of the failure in our crops may have been owing to continuing the cultivation of many of the old kinds beyond the period of that health and vigour that is to be found in new seedlings, and, under that impression, I commenced in 1833 to raise new sorts from the seed of the potatoe-apple, which produced an almost endless variety in form and colour; from these I have carefully selected such as proved very productive as a crop, and were found good at the table. They have, in consequence, been reduced to twenty-four varieties, in none of which the least appearance of failure could be observed, although I have, like my neighbours, suffered in some of the old kinds forming my general crop, and planted under similar circumstances. Owing to the unavoidable delay in preparing my ground last season, they were planted late with the plough in a heavy soil, and were kept out in pits all winter.

It is my intention early next month to offer about 500 bushels of these seedlings to the public, which will be announced by advertisement, and I feel great confidence that the introduction of so many new kinds will prove valuable when dispersed over the various soils of the country.

The potatoe crop is of such great importance to this country, that every person who has the opportunity, from practice or observation, should be prompt in contributing to our stock of information, and if any remarks have a tendency to clear up the prevailing mystery, I shall consider myself highly rewarded.

EDMD. GRIMSHAW.

Mossley, near Belfast, Feb. 24, 1837.

EXTRAORDINARY MONSTER.—There is now to be seen at Uffington, nailed to a barn-door, an astonishing instance of nature's vagaries, a little pig—or rather two pigs—for it has two perfect bodies, eight legs, and but one head, which was lately littered by a sow in the possession of Mr. Elderkin, of Uffington. This *lusus nature* lived some hours after birth.

POOR LAWS—IRELAND.

(Continued from page 172.)

REPORT OF MR. NICHOLLS.

PART THE SECOND.

34. The two points which I propose to consider under this division of the subject are of primary importance,—the whole question of a poor law for Ireland turning, I think, upon the conclusions to which they will lead.

These points are—

1. Whether the workhouse system can be safely established in Ireland; and if so, whether the workhouse can be there relied upon as a test of destitution, and a measure of the relief to be afforded.

2. Whether the means exist generally or partially of forming unions, and creating such a local machinery for their government, as has been established in the English unions under the provisions of the Poor Law Amendment Act.

In my inquiries with reference to these two points, in the several districts of Ireland through which I passed, I endeavoured to exercise a care and vigilance proportioned to the importance of the object. I do not give—indeed I did not collect—detailed evidence on these and the other questions referred to me, a sufficiency of such evidence being already accessible, in the appendices to the report of the late commission of Irish poor inquiry, and your Lordship having required from me only practical conclusions, with a view to early legislation.

I. First, then, As to the establishment of a workhouse as a test of destitution, and a measure of relief, in Ireland.

35. I entered upon this inquiry under great apprehension that the workhouse would be found to be less efficient as a test in Ireland than experience has proved it to be in England; and that it would, probably, be there applicable to the able-bodied, in a limited degree only, if applicable to them at all. This impression had been somewhat weakened before my departure from London, by inquiries among the several workhouse-masters and parish-officers of St. Giles, Whitechapel, Stepney, and Shadwell, in each of which parishes great numbers of the Irish reside. All these officers assured me, as the result of their experience, that the Irish had just as much dislike to the discipline and regularity of a workhouse as the English, and would be as little likely to remain in the house if they could obtain the means of support out of it. Notwithstanding these assurances, however, I arrived in Ireland with considerable misgiving on this point:

36. I felt very doubtful also, I confess, whether it would be practicable to control any considerable number of the able-bodied in a workhouse,—whether, in fact, the proneness of the Irish peasantry to outrage and insubordination was not, as had often been represented, such as would lead them to break through all restraint, and probably demolish the building and commit other acts of violence. The probability of outrage thus occurring amongst a people so excitable as the Irish, is strongly insisted upon by the commissioners of inquiry in their report, and the same argument was urged upon me by some of the individuals with whom I communicated in Dublin; so that my apprehensions as to the applicability of the workhouse system, as well as the security of the workhouse itself, were rendered extremely sensitive when I commenced my investigations in Ireland.

37. I shortly found, however, in the progress of my inquiries amongst men most competent from

experience to form a judgment, that there was no real ground of apprehension, either as to the applicability and efficiency of the workhouse for the purposes of relief, or as to any danger of resistance to the establishment of such a system of discipline within it, as should constitute it an adequate test of destitution. Indeed, if relief be limited to the house—if no outdoor relief whatever be allowed—it evidently becomes the interest of parties relieved, or seeking or expecting relief therein, to protect the premises, not to destroy them, by which they would, in fact, deprive themselves of the only means of relief provided for them by law. It is true that when congregated in large numbers, and excited by whiskey, the Irish peasantry are prone to outrage and insubordination; but this is not their invariable, nor even their habitual character. I speak on the testimony of experienced witnesses when I state that the Irish are easily governed, and easily led; and as in the workhouse they would be free from the influence of ardent spirits and other excitements, I anticipate no difficulty in establishing an efficient system of discipline and classification: and I consider, moreover, that there will be little danger of injury to the premises, or of violence against the functionaries.

38. In the several “houses of industry” established in Ireland, a strict separation of the sexes is enforced, and a discipline more or less approximating to our workhouse discipline is established. No spirits are admitted, but tobacco is generally allowed. On the whole, however, there is enough in these institutions to render them in some measure distasteful, as places of partial restraint, the inmates being subjected to privations calculated, perhaps, more than any other, to excite them to resistance; yet from no governor of a house of industry could I learn that resistance had ever been made to their regulations, and a degree of surprise was even expressed at my thinking it necessary to make such an inquiry. I received the same opinion from the governors of gaols. In short, every man whom I conversed with, who had any knowledge or experience of the habits of the people, declared that the peasantry are perfectly tractable, and never think of opposing authority, unless stimulated by drink, or urged on by that species of combination for securing the occupancy of land, which has become so common in certain districts, and which is most generally formed and acted upon under the influence of whiskey. Neither of these influences are opposed to the establishment of a workhouse, or the regulation of its inmates; all of whom will have sought refuge in it voluntarily, and may quit it at any moment. Let the condition on which the inmates are received into the workhouse be clearly understood then, and I think that there will be no resistance to the regulations by which it is governed.

39. As regards the security of the workhouse, therefore, and the establishment of a system of strict discipline as that maintained in our English workhouses, I believe that there will be neither danger nor difficulty. How far the workhouse, if established, may be relied upon as test of destitution and a measure of the relief to be afforded,—how far it will be effectual for the prevention of pauperism, and for stimulating the people to exertion for their own support, instead of seeking that support within its walls,—how far, in short, the workhouse system, which has been safely and effectually applied to dispauperize England, may be applied with safety and efficiency to prevent pauperism in Ireland, is a question now remaining for inquiry.

40. The governing principle of the workhouse

system is this.—That the support which is afforded at the public charge in the workhouse shall be, on the whole, less desirable than the support to be obtained by independent exertion. To carry out this principle to its full extent, it might seem, at first sight to be necessary that the inmates of a workhouse should be in all respects worse situated, worse clothed, worse lodged, and worse fed, than the independent labourers of the district. In fact, however, the inmates of our English workhouses are as well clothed, and generally better lodged and better fed than the agricultural labourer and his family; yet the irksomeness of the labour, discipline, and confinement, and the privation of certain enjoyments which the independent labourer possesses, produce such disinclination to enter the workhouse, that experience warrants the fullest assurance that nothing short of absolute necessity, of that necessity which the law contemplates as the ground for affording relief, will induce the able-bodied labourers to seek refuge therein; and that, if driven thither by their necessities, they will quit it again as speedily as possible, and strive (generally with increased energy and consequent success) to obtain their subsistence by their own efforts.

41. This has been invariably the result in England, and hence the conviction as to the perfect sufficiency of the workhouse test. If the party is actually and unavoidably destitute, the workhouse affords relief to his necessities; if not absolutely destitute—if sustenance is in any way attainable by his own efforts—workhouse relief does not lessen the stimulus to exertion in search of it; and there are instances without number of individuals so circumstanced being successful in their endeavours, and thus securing an independent support for themselves and their families; whereas, under the old system, they would have become confirmed paupers ever after dependent upon the parish for their daily subsistence.

42. Let these facts be now applied to Ireland. It would, perhaps, be in vain, even if it were desirable, to seek to make the lodging, the clothing, the diet, of the inmates of an Irish workhouse inferior to that of the Irish peasantry. The standard of their mode of living is unhappily so low, that the establishment of one still lower is difficult, and would, I think, under any circumstances, be inexpedient. In Ireland, then, there would not, I believe, be found this security for the efficiency of the workhouse test, which is in some, although in a very slight degree, operative in England. There are countervailing circumstances in favour of Ireland, however, which appear to more than balance this circumstance, even if it were weightier than it really is. The Irish are naturally, or by habit, a migratory people, fond of change, full of hope, eager for experiment. They have never been tied down to one confined spot, to one limited settlement, as has been the case with the English peasantry. They have never been enervated by a dependence upon a misapplied system of parish relief. Rather than bear the discipline and the restrictions of a workhouse, the Irishman, if in possession of health and strength, would wander the world over in search of employment. All the opinions which I have collected from persons most conversant with the Irish character confirm this statement. Confinement of any kind is more irksome to an Irishman than it is even to an Englishman. Hence, although he might be lodged, fed, and clothed in a workhouse better than he could lodge, feed, and clothe himself by his own exertions, he will yet, like the Englishman, never enter the workhouse, unless driven there for refuge by actual necessity; and he

will not then remain one moment longer than that necessity exists.

43. The test of the workhouse is then, I think, likely to be to the full as efficient in Ireland as experience proves it to have been in England; and if relief be there restricted to the workhouse, it will be at once a test of destitution, and a measure of the amount of the relief necessary to be afforded; and will serve to protect the administration of a legal provision for the destitute poor in Ireland from those evils and abuses which followed the establishment, and led to the perversion of the old poor-laws in England. In giving this as my deliberate opinion, I assume that the country is to be formed into unions as in England, and that each union is to be provided with a workhouse, adequate to the circumstances and wants of its population, and having a competent establishment of paid officers.

44. I have spoken of the workhouse as a test of destitution generally, without limiting its operation to age, infirmity, or other circumstance; for, independently of the difficulty of discriminating between those who may fairly be considered as aged and infirm, and those who are not—as well as certain other difficulties, practical and theoretical, in the way of making any such distinction, I have found in the state of Ireland no sufficient reason for departing from the principle of the English poor-law, which recognises destitution alone as the ground of relief, or for establishing a distinction in the one country, which does not exist in the other. I propose, therefore, to empower the presiding authority to admit the claims of all alike, able-bodied as well as infirm, young as well as old, male and female, to relief within the workhouse, on the ground of actual destitution, and I found [this proposition, upon a careful consideration of the present state of Ireland, as well as upon the experience of poor-law administration in England.

45. The discipline, mode of employment in, and general management of the workhouses in Ireland, should, I think, be as nearly as possible assimilated to the practice in England. In one respect, however, it will probably be found expedient to depart somewhat from this. In England it has been found that land, beyond an acre or two for a garden, is not a desirable appendage to a workhouse. Out-door labour on the land is not found to be so efficient for workhouse purposes as the labour which may be provided in the house, by means of hand corn-mills, stone breaking, &c. Looking at the circumstances of Ireland, however, and the possible influx of inmates at certain seasons, especially at the commencement of the system, I am disposed to think that a plot of land, varying from six to twelve acres, should be attached to each workhouse. This would be prudent as a first provision, and if it should afterwards be found that it can be dispensed with, the land might be readily let off, or sold.

46. The expense necessary to be incurred for providing workhouses will not, I apprehend, be so considerable as might have been anticipated. If the surface of Ireland be divided into squares of twenty miles each, so that a workhouse placed in the centre would be distant about ten miles from the extremities in all directions—this would give about eighty workhouses for the whole of Ireland. A diameter of twenty miles was the limit prescribed for the size of unions by Gilbert's act, but it was often exceeded in practice; it may, however, be assumed as a convenient size on the present occasion. In some cases, owing to the position of the towns to be taken as the centres of unions; or other local causes, the unions will probably be smaller; in others, especially in

the thinly peopled districts of the west, they will, in all likelihood, be larger; but still there is, I think, every probability that the number of workhouses required will not materially, if at all, exceed eighty. In aid of this number, the houses of industry, and mendicity, and other establishments, which will be unnecessary as soon as a legal provision is made for the relief of the destitute, will become available at probably a small expense, or at no expense whatever. In some instances, moreover, barracks, factories, or other buildings suitable for conversion into workhouses, will not improbably be obtainable on easy terms; but, excluding all these favourable considerations, which are calculated to lessen the estimated expense, and even admitting that, instead of eighty workhouses 100 will be required, and that the cost of erecting each will be about the same as for the largest class of our English workhouses, namely, about 7,000l, this would give a gross outlay of 700,000l for the whole of Ireland—a sum surely not large, when the nature of the object is taken into consideration.

47. If Government were to advance this sum, or so much as might be necessary for providing the workhouses, by way of loan, as has been done to the unions in England, requiring an instalment of five per cent. of the principal to be paid off annually out of the rates, it would make the whole charge so easy that it would scarcely be felt. With such an object in view, it will scarcely be contended that a payment of 35,000l per annum for twenty years, with the interest on the constantly decreasing principal, would be considered as a hardship on Ireland; and this is, in fact, the whole of the new or additional outlay proposed; for, as regards the relief of the destitute, that, as I have said before, would not be a new charge, the destitute classes being now supported out of the produce of property, although in a manner calculated to lessen the amount of production, and consequently, in the long run, to lessen the income of the proprietors, as well as to injure and depress the general character of the people. No objection can therefore, I think, be raised in Ireland, on account of this proposed outlay for the provision of workhouses.

48. It appears, then, from the foregoing statements, that the workhouse system, which has been successfully applied to dispauperize England, may be safely and efficiently applied, as medium of relief, to diminish the amount of misery in Ireland. It appears, moreover, that the expense of providing the necessary buildings will not be so large, having reference to the importance of the object, as to cause any serious impediment to the measure; and that this expense may, with the consent of the legislature, be so spread over a period of years, that its pressure will scarcely be felt.

II. Secondly—As to the means of obtaining the benefits of combined management, and of creating a local machinery for the government of unions in Ireland.

49. If it was desirable to establish, in the several parishes of Ireland, a parochial machinery similar to that which exists in England, I believe the attempt would fail, for the description of persons requisite for constituting such a machinery will not be found in the great majority of Irish parishes. In some parts of Ireland, however, and especially in the north and east, competent individuals would be found in many, if not in most parishes. If an Irish poor law be established, the uniting of parishes for the purpose of securing the benefits of combined management is, therefore, I think, more necessary, even than it was for England; and by making the unions

sufficiently large, there can be no doubt that in almost every instance a board of guardians may be obtained by way of election, of such intelligence and efficiency as to insure the orderly working of the union, under the system of strict supervision and controul, which it would be necessary for a time to exercise over their proceedings.

50. In the first instance, and until a rate for the relief of the destitute is established, the contributors to the county cess might be empowered to elect the guardians; but in some cases an efficient board of guardians may not be obtainable by election, and this is most likely to occur at the commencement of a new system, when individuals will be ill instructed as to their duties, and when the public will, perhaps, have formed exaggerated and erroneous notions of what is intended to be done. To meet this contingency it seems essential that large general powers should be vested in some competent authority, to controul and direct the proceedings of boards of guardians, and even to supersede their functions altogether, when such supersession shall appear to be necessary. Power should also, I think, be given to declare unions, and to appoint paid and other officers to conduct the business, under the direction of the central authority, without the intervention of a board of guardians; and, in order to guard against the confusion and mistakes to be expected in some districts, on the first introduction of an entirely new order of things, and to prevent the mischief that might ensue from failure or misconduct on the part of the local authorities at the outset, the central authority should also be empowered to dispense with the election of the first board of guardians, and to appoint such persons as may appear most fit and competent to act as guardians of the union, either until the Lady-day next ensuing after such appointment, or to the Lady-day twelve-months, as the central authority may decide. The number and selection of such specially appointed guardians to be entirely at the discretion of the central authority.

51. These powers are greater than those that were given to the English commissioners by the Poor Law Amendment Act: but they are, in my opinion, necessary in the present state of Ireland; and as they will be openly exercised upon the responsibility of the central authority, whose governing motive must be the success of the measure, there is the best guarantee for their proper application. With these powers confided to the central authority, no difficulty will arise for which it will not be prepared, and it will, I think, be enabled to establish the unions, and to constitute an adequate machinery for their government throughout the whole of Ireland with certainty and efficiency.

52. In England all the county magistrates residing and acting within the limits of the respective unions are *ex-officio* members of the several boards of guardians. The number and position of the magistracy in Ireland seem to require a modification of this rule in its application to that country. The principle of poor-law administration established in England by the Poor Law Amendment Act, is based essentially upon popular representation. The guardians are elected by the actual occupiers and owners of the property rated, and in the hands of the guardians the administrative power is vested. The county magistrates, it is true, are admitted in virtue of their office to sit and act as members of the board, having equal powers with the elected guardians; but this does not destroy the strictly elective character of the administrative body, for in every union the number of elected guardians so far exceed that of the *ex-officio* guardians, that the popular and elective character of

the board is maintained, whilst at the same time, by the infusion of a portion of the magistracy, who become, in virtue of their office, permanent members, and therefore connecting links between the successive boards of guardians, the whole machinery is greatly improved, and a degree of stability and continuity of action is imparted to it, which, if based entirely upon election, and changeable annually, it would not possess.

53. This is the constitution of the boards of guardians in the English unions, and nothing can work better; but in Ireland I have found, upon enquiry, that the number of magistrates who would be entitled to act as *ex-officio* guardians, would in general greatly exceed the number usually found qualified in England, and in some cases would, in fact, probably outnumber the elected guardians. If this should occur the elective character of the board would of course be destroyed; but even if this should not be the case, yet any undue preponderance of the permanent *ex-officio* guardians would detract from the popular character of the governing body, and lower it in the confidence and estimation of the people. On these grounds, and with a view of keeping as nearly as possible to the practical constitution of the English boards of guardians, I propose, in the Irish unions—

- 1st, That the number of *ex-officio* guardians shall never exceed one-third the number of elected guardians;
- 2dly, That immediately on the declaration of a union, the county magistrates residing and acting within its limits, shall nominate from among themselves a number nearest to, but not exceeding, one-third of the elected guardians—which magistrates so nominated by their peers, shall be entitled to act as *ex-officio* guardians of the union, until the Michaelmas twelve-month after such nomination: and a list of their names, duly certified by the clerk of the peace of the county or division in which the union is situated, shall be inserted twice in the county newspapers;
- and 3dly, That at each succeeding Michaelmas, the magistrates entitled as aforesaid shall proceed to a new election. These regulations will, I think, not only preserve a due proportion in the constitution of the boards of guardians, but also ensure the co-operation of the most efficient portion of the magistracy in the government of the unions; as the magistrates will, of course, nominate those members of their body who are resident, and most active and able.

54. A different practice from that established in England seems also to be necessary for Ireland with respect to the clergy. Under the provisions of the Poor Law Amendment Act, ministers of religion of every denomination are eligible to fill the office of guardian elected or *ex-officio*. In the present condition of Ireland, I fear that this would be attended with serious inconvenience, and might perhaps altogether destroy the efficiency of the board of guardians. I therefore propose that no clergyman, or minister of any religious denomination, shall be eligible to act either as elected or *ex-officio* guardian. This exclusion is not proposed from any notion of the general unfitness of the clergy to fill the office of guardian; but with reference solely to the present state of religion in Ireland, and to the importance of keeping the functions of the boards of guardians totally free from even the suspicion of any kind of bias. If the ministers of one persuasion were to be admitted, the ministers of every persuasion must be admitted; and then the deliberations of the boards of guardians would too probably, in some cases, be affected by religious differences. Many of the clergy of the established church, moreover, being in the commission of the peace would be entitled to act as *ex-officio*

members of the board of guardians, if no such general ineligibility was to be established; and this would probably be considered by many, as giving them an undue preponderance in districts where the bulk of the people are Catholics. Ireland in this respect differs greatly from England, and seems to require the application of a different rule.

55. In the course of my very anxious enquiries on this point, it was several times suggested to me, that the clergy and ministers of religion generally ought to be members of the boards of guardians in virtue of their office, on the ground that they knew more of the wants and necessities of the poor than any other description of persons; and this was stated to be more particularly the case with the Catholic clergy. It might, perhaps, be sufficient to state, with reference to this suggestion, that any such admission of the clergy, as a body, would be directly at variance with the principle of popular election established in England, under which the boards of guardians are constituted, and to which they continue amenable, the several members having to be elected annually; whereas the clergy, if they were to be admitted as suggested, would be permanent and irresponsible members of the board. In addition to this objection, however—which, as it involves a principle, must be considered as final,—it may be remarked, that if the above suggestion was to be adopted, and all the ministers of religion within a union were, as such, to become members of the board of guardians, it would make the board far too numerous for the orderly and efficient despatch of business. There would probably be much debate and contention, with but little progress in the affairs of the union. The experience already obtained in the working of the unions in England is decisive upon this point. The most numerous boards of guardians are invariably the least efficient, and the most open to be acted upon by partial and party views. If this be the case in England, how much more likely is it to occur in Ireland, where the incentives to party bias, religious and political, are so much stronger? In Ireland, therefore, it seems most important to extend the size of the unions, for the purpose of obtaining an impartial board of guardians; and to limit the number of its members, in order to secure its efficiency.

56. The duty of a guardian will be altogether of a civil character, to be fulfilled in conformity with strict legal enactments, and having nothing in common with religious functions. If a clergyman were to become a guardian, he would be bound to act in that capacity as if he were a lay member; and the clergy of all persuasions, it appears to me, would be enabled to exercise a more legitimate influence within their districts, if they were not members of the boards of guardians, than if they were. As guardians, their course of action would be strictly prescribed; but if not guardians, they may be guided by what they consider to be their general or peculiar duties: and they will be enabled, as teachers to whom the people look up for advice and instruction, to render most important service to the union.

57. The board of guardians, in the faithful performance of its duties, will often have to refuse applications for relief, and to act with strictness, perhaps at times even with apparent rigour. If any minister of religion was to be a member of the board, a part of the odium which would attend such acts, however necessary and proper they might be, would attach to him, and possibly affect his ministry. If clergymen are restricted from acting as guardians, no such consequences can ensue. They may then moderate as well as inform, and become mediators

between the poor on the one side, and the union authorities on the other. The funds, too, which as clergymen they have to administer for charitable and religious purposes, must generally be distributed by them on a different principle from that which governs the relief administered by the board of guardians. This circumstance, if they were members of the board, and party to its proceedings, would probably embarrass their conduct in one or the other capacity. On no point have I taken more pains to arrive at a sound conclusion than on this, being fully sensible of the objections, on principle, to the exclusion of any class of men from office; but the great majority of the clergy themselves with whom I have conversed, Catholic, Presbyterian, and Protestant, have agreed in thinking that it will be, on the whole, inexpedient to admit any of the ministers of religion to act as guardians. After the fullest consideration and most anxious inquiry, therefore, I recommend, that they should be declared altogether ineligible.

58. The clergy, both Catholic and Protestant, may, however, by their influence and exhortations, greatly facilitate the introduction, and help the working of a system of relief for the destitute classes; and this they will be enabled to do far more effectually if they are not guardians. I rely upon the clergy, and upon the intelligent portion of the community in Ireland, for explaining the real objects of the new law to the people, and thus preventing exaggerated notions as to what is intended. The Irish peasantry may otherwise be led to consider it as framed for their entire support, and be apt to look to the rates instead of their own exertions. The application of the workhouse test will, it is true, correct this after a time; but in the interim, and especially at the outset, inconvenience may be created if this very possible evil is not guarded against by explaining to the people that the relief which the new law provides is intended solely for the destitute, and not for those who have ability to support themselves. Such explanations have been necessary even in England, where certain evil-disposed persons have occasionally laboured to persuade the people, that they were entitled to be supported in idleness out of the rates: and similar practices may not possibly be attempted in Ireland.

59. With a central authority possessing such powers as are before indicated, I see nothing, present or prospective, to prevent the establishment of unions in Ireland similar to, and in all respects as effective as, the unions established in England under the Poor Law Amendment Act. In the less populous parts of the country, it might be desirable to have the chief police-station near to the workhouse. The school would be close, if not attached, to the workhouse. The dispensary would there be established, and medical and surgical aid, if required, would there be found. The union establishment would thus become a kind of colony, a kind of centre of civilization, and the unions collectively might be made important engines for effecting improvements in the condition and habits of the Irish people, in whose clothing, cottages, and domestic economy, as well as in their agricultural and other management, there now appears a lamentable deficiency of the faculty happily so common in England—namely, the faculty of making the best of every thing.

60. In passing through Ireland, no person can fail to notice the several police-stations, nor can doubt that the order and neatness which these generally exhibit, will operate in the way of example upon the neighbouring cottages. It may require

time to produce any very sensible effect; but some effect will assuredly be produced. Man imitates good, as well as evil; and if examples of the former are placed before him, they will not be altogether lost, even under ordinary circumstances; but the example set to a district by a union establishment, such as is above described, exhibiting neatness, order, and comfort, with probably a portion of land for farming and gardening attached, must be of far greater influence than any insulated example could be. Such an establishment would be the centre of resort of the whole district; and might become the nursery and source of every kind of improvement in the moral and social habits, the domestic economy, and general operations of the surrounding peasantry, and occupiers of land.

61. When there shall be a provision for the destitute, at the common charge, the community will have acquired a right so far to interfere with the proceedings of individuals, as to prevent the spread of destitution, and to guard itself from loss or damage by the negligence, obstinacy, or supineness of any of its members. Under the old civil institutions in England, this interference was largely exercised, to the benefit of the community at the time, although in the present advanced state of society it has become unnecessary, and would now scarcely be tolerated. In Ireland, the state of the rural community is in many respects similar to that which prevailed in England when the local headman of the village or parish was looked up to as an authority in advising and directing to what was right, as well as in restraining from what was wrong; but in the majority of Irish parishes the whole population is nearly on the same level—there is no gradation—no man or class of men sufficiently prominent to possess control, or even to exercise influence; there is not the least approach to self-government observable. To select from among the inhabitants of a parish one or more of the most intelligent individuals, and to array them on the side of the law, good order, and improvement, and to clothe them with a certain extent of authority and local importance, as was the case with the headborough or local headman, and as is now the case with the parish-officers collectively, in England, would therefore, I consider, be productive of benefit as well as convenience in Ireland; and I recommend that the central authority should be empowered to appoint, or to direct the board of guardians to appoint, one or more wardens or officers for every parish, or for such districts of the union as may be deemed most convenient.

62. The central authority should have power to define the duties of these officers or wardens, which would be to superintend generally the affairs of the district, to assist and observe the instructions of the board of guardians, especially with reference to measures intended to operate upon the habits of the labouring population. Parochial or districts officers of this description might be made extremely useful in connecting the board of guardians with the several portions of the union, thus extending its influence, and rendering it effective for the purposes of general improvement, as well as for the administration of relief. These officers should, I think, be armed with the authority of constables or headboroughs, and should be second in local importance to the guardians, to which office theirs would probably often become preliminary. I propose to vest their appointments (subject to the controul of the central authority) in the board of guardians, for the purpose of giving importance to that body within the district of which it is the head, an object obviously desirable. The appointment should be for a

year, but the same persons might be re-eligible. Such officers would probably be found useful for other local purposes, with reference to the functions of magistrates and grand juries, to which end it might be necessary to have one or more for every civil parish, according to its size, population, or other circumstances. This would be the first step towards self-government in the Irish parishes. It has been said that the Poor Law Amendment Act has destroyed local self-government in England: but this is not the fact. It has not destroyed, it has on the contrary improved it, by centralizing and combining the best elements existing in a large district, in lieu of the scattered, desultory, and imperfect old parochial administrations. Such will also, I believe, be the effect of unions in Ireland.

63. There are some other points connected with the creation of a machinery for union government, to which it appears necessary to advert. In England, under the provisions of the Poor Law Amendment Act, every parish or township rated for the maintenance of its poor, and included in a union, is entitled to return a guardian. In Ireland, it will I think be essential that the central authority should be empowered to fix the boundaries of a union, without being restricted to parish boundaries. It should be empowered to divide parishes, either for the purpose of electing guardians, or for joining a portion of a parish to one union, and another portion of the same parish to another union. It should also be empowered to consolidate parishes for the purpose of electing one or more guardians, and likewise to form election districts for this purpose, without reference to parochial boundaries. And lastly the central authority should be empowered to add to, take from, and remodel unions, with or without consent, at any time that such change might be deemed to be necessary. These powers have been much wanted by the English poor-law commissioners, and would have enabled them to make their unions more compact and convenient than they are at present; local prejudice and local interests having frequently compelled the commissioners to abandon the arrangement which, with reference to the general interest, they deemed the best. In Ireland full powers in this respect are, I think, indispensable, not only on account of the size and uncertain boundaries of some parishes, but also to enable the central authority to deal with the various circumstances under which the unions will there have to be formed.

64. I consider, then, that with adequate powers confided to a responsible authority, and with such modifications as are hereinbefore described, the principle of union for the purposes of systematic and combined management, which has been established in England by the Poor Law Amendment Act, may be advantageously extended to Ireland; and that, as it has been shown that no insurmountable difficulty exists to impede the introduction of the workhouse as a test of destitution, and a measure of relief, so neither will there be any insurmountable difficulty in establishing an adequate machinery for the government of the unions when formed.

(To be continued.)

farm of Deanston. In the design, two essential points were kept in view—first, the construction of an instrument that would effectually open up the subsoil, without throwing any of it to the surface, or mixing it with the active or surface soil; second, to have an implement of the easiest possible draught for the horses, while it was of sufficient strength and weight to penetrate the firmest ground, to a depth varying from fifteen to eighteen inches, and resist the shocks on the largest stones. This plough is, therefore, on a gigantic scale, in comparison with the light ploughs in ordinary use. Its extreme length is fifteen feet. From the socket at the point of the beam, to the first stile or upright, six feet; from thence to the back of the second stile, nineteen inches; from thence to the outer end of holding handles, seven feet; from the sole to the bottom of beam at stiles, nineteen inches; length of head or sole bar, thirty inches; from heel of sole to point of sock, forty-six inches; broadest part of sock, eight inches. The coulter is curved; and, in order to prevent its point from being driven from its place by stones, it is inserted to a depth of an inch in a socket. The lateral dimensions of the sole-piece are two inches square, this is covered on the bottom and land side with a cast-iron sole-piece, to prevent wear. The sock goes on to the head in the usual way, and from its feather rises the spur-piece, for the purpose of breaking the subsoil furrow. When the subsoil consists of very firm clay, or other hard and compact earth, the feather and spur-piece may be dispensed with, and a plain wedge or spear-pointed sock, such as those of the old Scotch plough, may be used. The draught bar, of one and a quarter inch round iron, is attached to the beam at the strong eye, and, passing through an eye in the upright needle, is adjustable to any height or lateral direction, being moveable in the socket, at the point of the beam, and can be made fast at any point by a pinning screw, wrought by the lever. By the proper setting of the draught rod, the direction of the power of the horses is so regulated, as to render the guiding of the plough easy at any depth or width of furrow. The beam is about five inches deep at the middle, and one and a quarter inches in thickness; towards the draught end, it tapers to three inches deep, and one inch thick; at the holding end, where the handles branch off, it is two inches by one. The whole, being iron, weighs four hundred and forty pounds, imperial. This appears an enormous weight, and most people are alarmed at the strength and weight of the implement; but, after repeated trials with lighter ploughs, those of the dimensions and weight now described, have been found to be at once the most efficient, the most easy of draught, and the easiest for the ploughman to manage. Four ordinary farm horses are generally sufficient to draw this plough, in breaking up subsoil of ordinary firmness; but, on very tough clays, or in hard till, it may be found necessary to use six horses. When four are used, they are yoked two and two, by draught bars and chains. When six are used, they are yoked three and three, by draught bars and chains. The main chain, or the leading horses to pull by, is hung, in both cases, by links from the collars of the rear horses, to keep it up from their legs, and the trace bars of the leaders are kept close up to their hams, by cross-straps on their quarters.—*Chambers's Journal.*

Farmers and breeders of horses in this part of the county will be glad to learn that Mr. William Allen, of Wampool, has purchased at a great expense that celebrated stallion, Young Muley, late the property of Mr. James Harrison, of Lowfield, near Kirby Lonsdale, whose stock has been the admiration of the best judges in Yorkshire. The enterprising spirit of such a man as Mr. Allen, cannot be too much appreciated by our northern breeders, as a cross by a horse like Young Muley must tend considerably to the improvement of the breed of horses in this county. It gives us great pleasure to state that Young Muley, and that well known Scotch cart stallion Colossus are intended to travel in the north of Cumberland.

THE SUBSOIL PLOUGH.—The subsoil plough was designed, some nine or ten years ago, by James Smith, Esq., of Deanston Cotton Works, Stirlingshire, for the purpose of opening up the close subsoil of the

MR. MILBURN'S REPLY TO MR. GILL.

SIR,—S. P. G., or as he has now signed himself, S. Gill, has replied to my last letter, on the aphids, being a cause of the failure of the turnip crop; and after reading his letter carefully over, I must confess that I cannot find any thing advanced to overturn the strong facts I adduced, or any thing new in favour of his views. There is, however, one thing which I beg leave to correct; he now seems to insinuate that a disease of the plants produced the flies, or rather caused them to commence their attacks, whereas in his previous letters he stated, that the plants decomposed before the aphides appeared, and they simply acted in carrying off the putrid vegetable matter. Now, we know that there is a great difference between disease and decomposition;—the one is an unhealthy state of the plant, the other a dissolution of its particles when dead. He contended that the insects did no real injury to the crop, declaring that “it will never attack a plant till it has arrived at a certain state of decomposition.” I replied, that the insect naturally fed on the healthy juices of the plant, but then it might be in a state of disease from other causes, cold, or drought, or both; but however diseased it might be, so that it was not dead, it could never establish a theory which maintains that the insects feed only on putrescency. To prove my views I adduced, 1st., the opinions of the most celebrated naturalists of the age; 2nd., the evidence of the formation of the insects themselves; and 3rd., that of several facts, and much like repetition, as this may appear, it is necessary to state our different lines of arguments, in order show that Mr. G. has not overturned my theory. It appears from his letter, that some of the plants were in a state of disease, and others in a state of decomposition, before the aphides attacked them. Now I am bound to believe this, but if this were the case, does it not disprove his position, that they feed only on putrifying vegetable matter? and if they feed on the living plant at all, however diseased it may be, they must hasten its destruction, and thus be a cause of the failure; and this is all I contend for. I repeat, that in Yorkshire the plants generally were pretty healthy before the aphides commenced their ravages. On a field of beautiful plants, very near the place where I am now writing, the aphides literally swarmed, especially on the finest plants; they were followed by numbers of their destroyers, lady-birds, (*coccinellidæ*), which considerably thinned their ranks, and the crop survived; but mark, those plants which were destroyed by the wire-worms, and which manifestly decayed, not an aphid could be seen. He asks why do I refer to the weather at all?—simply because it may hasten the effects of the insects upon the plant, as I before explained.

With respect to my geranium, to which my friend Mr. Gill, attaches so much importance as a proof of his principle, I think it proves mine in the most irrefragable manner. The simple fact, that it had aphides upon it for months, and continued perfectly healthy to all appearance, quite overturns, as much as any fact can, Mr. Gill's theory. I showed it to a friend of mine, and he declared that he never saw a healthier plant at that season; the fact was, I removed part of the aphides as they augmented, so as to keep but a small number upon it, or the reverse would soon have been the case. He says nothing of the attacks of the apple trees, which are certainly neither unhealthy, nor decomposed, without the number be very large, but asks how it happens that some plants are gone over by the parent insect? In reply, I beg to say, that I will answer his question

if he will tell me how it happens that the saw-fly, (*athalia centifolia*), of the black caterpillar does the same, or scores of other insects which might be named? Respecting that wonderful fact in natural history, the insect being both oviparous, and viviparous, I have nothing more to say, than that during the first part of the insect's existence, it deposits its eggs, (*ovæ*), and towards the latter stages, drops its young alive. For more information on this subject, I would refer to an article on “British Plant-lice,” in *The Quarterly Journal of Agriculture*, number (I believe,) 23, N. S., by Professor Rennie, which is one of the best things I have read on the subject generally.

Mr. Gill finds fault with the Latin terms I use. Perhaps, I am less of a Latinist than himself, but in speaking of different kinds of insects, he will see the propriety of giving the scientific, as well as the vulgar name, as the latter is generally provincial,—the former known by all who take the trouble to examine authorities; besides, he may perceive, that I merely append the scientific to the vulgar name; thus giving both the plain reader and the student, an opportunity of understanding the insect I allude to. As an example of the necessity of using the systematic, as well as vulgar nomenclature, I need only remark, that there are three distinct kinds of insects called the “turnip-fly,” and which belong to three different orders! The jumping beetle, which attacks the seed leaves, (order *coleoptera*); the saw-fly of the black caterpillar, (order *hymenoptera*); and the insect in question, the plant louse, (order *hermiptera*). Mr. Gill evidently confounded the first and last named, in his reply to Rusticus, a few weeks ago. As to my sarcastic language, he must be convinced that his first letters laid him open to it, and I am sure his good sense will perceive that it is somewhat excusable when opposing an anonymous writer. Now, that he has avowed his name, I should be sorry to use it, and he may be assured, that I did not wish in the least to offend.

Your's respectfully,

M. M. MILBURN.

Thorpefield, near Thirsk, Yorkshire,
March 13.

AN EXTRAORDINARY MODE OF HATCHING CHICKENS.—No one, whilst at Ghizeh, should omit seeing the chicken *manufactory*, where two old men perform the maternal duties of as many thousands of the gallinaceous tribe. The eggs are spread out on a flat surface of clay, in ovens, kept of course night and day, at a uniform degree of heat. The old men visit their charge constantly, turning the eggs with long poles, so as to bring every part of their surfaces in occasional contact with the clay bottom of the oven, which is somewhat warmer than the atmosphere. It is an extraordinary sight! Every instant some little animal, in his struggles to enter this world of troubles, bursts its shell, and starts into life (an orphan from his birth!) keeping the surface in a constant state of agitation. They are immediately taken out of the oven, placed in baskets, and sold by measure—every old woman in the neighbourhood buying a pottle of the miserable little creatures to take home and dry-nurse, until they are of an age to shift for themselves. I believe this method of hatching chickens is common throughout Egypt, although I cannot state on my own authority, that such is the case; if so, it may account for the degeneracy of the breed of fowls, for they are invariably small, though the eggs are not much less than those usually met with in other countries.—*Capt. Scott's Rambles in Egypt and Candia.*

CHURCH-RATES, CROYDON, SURREY.

We subjoin a petition to the legislature, which has received the signatures of the owners and farmers of many thousands of acres of land in Surrey, praying for the abolition of this impost, which is the best answer to the pretended all-but-one unanimous petition of the rector and inhabitants of Croydon, and to the speech of his Grace of Canterbury :—

“ To the honourable the Commons of the United Kingdom of Great Britain and Ireland in Parliament assembled. The humble petition of the undersigned farmers and agriculturists, residing in the parish of Croydon and near thereto, in the county of Surrey, sheweth,

“ That your petitioners are members of the united church established in this kingdom, and either hold in their own right, or occupy as tenants, various farms in the parish of Croydon and in the parts adjacent, in the county of Surrey, containing the number of acres specified and set opposite their respective names.

“ That your petitioners are called upon to pay annually very large sums of money, in some cases as much as between 20*l* and 30*l*, for church and chapel rates in respect of their farms, and although in many cases, in the parish of Croydon, they are not only obliged to contribute to maintenance of their parish church, in which they have no accommodation, but they are compelled to contribute to the building and sustentation of chapels of ease in the parish, and to pay for sittings in such chapels of ease.

“ That in October last, a church-rate of five pence in the pound was made for the parish of Croydon, and at the same time a chapel-rate of five pence in the pound, the former rate being applicable to the maintenance of the fabric of the mother church and other incidental expenses, and the latter to repay to the commissioners the amount borrowed for building the chapels of ease within the parish, with the interest thereon, which has been suffered to run into arrear.

“ That many of your petitioners purchased their estates and took their farms on lease previously to the of Parliament for building new churches, and, consequently, without any notice or expectation of being charged with any such chapel-rates for a period of at least 20 years, in order to raise a competent sum of money to repay the amount borrowed for building two chapels of ease within the parish, and the interest thereon: and your petitioners, therefore, submit that they neither purchased their lands nor took leases of their farms under any such liability.

“ That with regard to the propriety of applying any surplus of the church revenues in exclusively providing increased church room, your petitioners venture to suggest that in many parishes the public accommodation might be doubled by adopting the plan followed in other countries, where consecutive services are held in the same church by different ministers many times every Sabbath-day; and your petitioners see no reason why the first service might not commence at ten and close before noon, when the second service might commence and so on during the remainder of the Sabbath as might be found convenient; and your petitioners are of opinion that such an arrangement would be productive of much benefit to the establishment and to the parishioners, provided they were allowed to choose their own ministers for such additional services.

“ That although your petitioners are advised that it is incumbent on the owners of land within the parish to repair the fabric of the church, except as regards the chancel, and that the occupiers are only liable to be rated under a separate assessment for the ornaments and other outlay connected therewith; yet such of your petitioners as are occupants only are rated for the entire charges on both accounts, which your petitioners submit is contrary to law.

“ That your petitioners believing that the proposed abolition of church-rates is neither dangerous to the established church nor prejudicial to its interests, inasmuch as in ancient times, when the bishops received

the whole tithes of the diocese, a fourth part thereof, in every parish, was applicable to the repairs of the fabric, and upon the diocesan's releasing their interest to the rectors they were acquitted of such repairs, which it became thenceforth the duty of the rectors to discharge; and considering that by the canon law the repairs of the church belonged to the rectors in right of such fourth part, and not to the parishioners; and as the rectors became by custom ultimately released from the burden by throwing the repairs on the parish, no immemorial usage can have existed that the church should be maintained at the charge of the inhabitants at large, whose supineness and neglect alone have from time to time doubtless in a great measure contributed to their present liability.

“ That your petitioners feel themselves much aggrieved in being compelled to pay such heavy charges for church and chapel-rates, and humbly conceive that if they were abolished, and the property of the church rendered available towards the maintenance of its fabric, it would not only be a very considerable relief to agriculturists in general, and to your petitioners in particular, but would tend to restore peace and harmony to the church, and very materially to consolidate and uphold the national establishment.

“ Your petitioners, therefore, most humbly pray that church-rates may be abolished, and that your petitioners may be relieved from an impost which they never contemplated when they became the purchasers or tenants of their respective farms.

“ And your petitioners will ever pray, &c.”

THE NECESSITY OF WEEDING.—An observation I have made, in going through your farms, is, the very little care taken to prevent the spreading of the destructive weed called *coltsfoot*; this is the first plant that comes into flower in Spring: you will see the blossom, in the land where it grows, in the month of March, before a leaf is visible, and, in the course of a month or six weeks, whilst the ground is still red, it appears with a white tuft of down, on examining which, you will find a seed attached to each particle, by which it is carried for miles over the country, at that season, when the ground is ready prepared for its reception. It is by the sowing of the seed in this way, that this weed is propagated; for it makes but slow progress by the root, however difficult it may be to eradicate it, when it has once got hold of the ground. This weed, also, appears to me to grow spontaneously, where the practice of overwhelming, or burning the surface to make ashes, prevails. There is another weed, which I, likewise, see doing a great deal of mischief—I mean *ragweed*. The quantity of nourishment it draws from the ground, is shown by this, that it will not grow upon bad land. In regard to it, a most ridiculous notion prevails, which I have frequently found people possessed of, who ought to know better, namely, that all the nourishment it has extracted from the soil in its growth, is again returned to it in its decay, or in other words, that, after ripening the seed, the sap descends and enriches the earth, which is, therefore, left nothing the worse. I see, also, the cutting down thistles wholly unattended to, and the seed allowed to scatter, with the most perfect indifference. In England, a farmer has been known to bring an action against his neighbour, for not cutting down the thistles on his farm, and he recovered damages without difficulty. I wish most sincerely, that here, where people seem to be as litigious as in any part of the world, some one would set an example of punishing such wanton neglect as takes place, with regard to all the weeds I have alluded to. Thistles are only biennial plants, and, therefore, if cut down for two successive years, the supply of seed would be destroyed. I see people employed for whole days pulling up these out of their crops, when half an hour's labour in cutting down the parent stocks, would have prevented the young from ever having come into existence.—*Blackler on the Cultivation of Small Farms.*

BET ROOT SUGAR.

Subjoined is a more full report than we were enabled to give last week, of the speech of the Rev. Mr. GWILT upon this subject, delivered at the dinner of the members of the Central Agricultural Society.

The Rev. GENTLEMAN expressed himself highly gratified by the flattering manner in which his health had been drunk. Before he proceeded to lay before the meeting the result of his inquiries on the subject of beet-root, the cultivation of which had providentially opened a new field for the relief of agriculturists, it was proper to remind the meeting that hard necessity had already given birth to various experiments, with a view to assist the farmer in bearing up against the burthens with which he had been so long oppressed. Ploughs of various descriptions had been introduced, till manual and animal power were not unlikely to be superseded in the end by mechanical power. A discovery, however, had been at last made by the cultivation of beet-root, which promised to reward the farmer for some of his past sufferings, and to enable him to afford the agricultural labourer a new field for employment, should the introduction of mechanical power interfere in other respect to reduce it. A body of public spirited individuals have lately established a factory for the manufacture of sugar from beet-root—the experiment has been made, and the result has most satisfactorily proved that the finest sugar can be extracted from that description of produce in our own country. It is neither attempted nor intended to depreciate the interests of the colonies, but the fact is, nevertheless, unquestionably established, that sugar manufactured in this country from beet-root, is fully equal in quality and flavour to that produced from the sugar cane. This fact, therefore, is much too important to be neglected or passed over in silence by the agricultural classes, who are undeniably admitted to be in a very distressed state, and whose interests ought to be held, at least equal to, if not paramount to all others. Our agriculturists reasonably complain that government encourage capitalists to desert their native soil and invest their property in other countries, when it has been clearly demonstrated that the means can be readily obtained to encourage industry and the employment of capital at home, by producing sugar from our own soil, if government does not prohibit or check it in its infancy by an injudicious tax. Government ought, at least in the commencement of an enterprise, offering such advantages to the agriculturists, to allow the fact to be proved, whether or not such advantage can be realised to ameliorate and improve their condition, and not prematurely destroy the prospect of relief at the moment a gleam of hope appears. In consequence of the emancipation of the negroes, the quantity of sugar grown in the West Indies, has now considerably diminished—it has been stated to be upwards of 16,000 tons; supposing this statement to be correct, and the deficiency were supplied by the produce of our own country, it would require the cultivation of many thousand acres of land, and thus afford additional means of employment for the agricultural population, who might otherwise be in comparative want. Is this therefore a subject to be lightly treated, or passed by as unimportant? Every agriculturist, indeed the community at large, must feel too deeply interested to let it rest.—If the Government would allow and encourage beet-root sugar to be manufactured, instead of taxing it in its infancy—if they would allow it even to reach maturity, it would create an increased demand for land, and consequently prove of great service to the landed interest. There is neither desire nor occasion to export the beet-root sugar, it will sufficiently recommend itself to our own countrymen. The Association repel the suspicion of an attempt to obtain the drawback allowed on the exportation of crushed sugar, which is totally groundless, and can only have been insinuated by some interested and not over-scrupulous persons. And as the manufacture of sugar from beet-root must occupy very many years before it can be at all calculated that the

supply will be, if ever, equal to the deficiency from the Colonies, no reasonable or just argument can really be urged why we should not manufacture sugar in our own country, encourage our capitalists to invest their money in it, thereby confer an immense benefit on their brother agriculturists—give occupation to numbers of their fellow-creatures as labourers, who might otherwise be paupers in their respective parishes, and thus render them useful as well as valuable members of society. From a statistical account which has been taken, it is proved that nearly fifty millions sterling is and about to be invested in railroads throughout England, several of which are now near completion. The Liverpool and Manchester railroad has been upwards of six years completed, and was the means of putting out of employment two thousand horses, and the distance is little more than thirty miles; it may, therefore, be easily imagined what the decrease in horses will be, when the numerous railroads now in progress and completion become in general use throughout the kingdom: the consumption of oats, hay, and grazing land will, as a natural result, decrease in proportion. This is another and very powerful reason why Government should encourage the manufacture of sugar and induce the growth of beet-root; and seriously pause before they discourage the same by a premature and injudicious impost; the establishment of which impost would operate so materially to the injury of the agriculturist—annihilate the prospect of relief held out by depriving him of the opportunity to supply the loss sustained in the deficiencies of oats, hay, &c. In the northern parts of France, where beet-root is cultivated to a very great extent, the price of land has become treble in value, and rents proportionably increased. The French Government seeing the necessity of encouraging the production of indigenous sugar, has recently abandoned the intention of imposing a tax which would operate so seriously against the agricultural and landed interests. In Ireland where so much land still continues uncultivated, and where the population so much need employment—the culture of beet-root and manufacture of sugar would, it is conceived, very essentially benefit that country; the strongest reasons can therefore be urged for encouraging such manufacture, even if there were no other argument than a sense of common justice to that portion of the United Kingdom; it is therefore quite evident, should Government not interfere to discourage it, that the manufacture of sugar from beet-root in Ireland would immediately encourage the cultivation of a vast extent of land now useless, and give employment to the starving peasantry and the mechanic; besides, in proportion as the growth of the beet-root progressed, the price of sugar would diminish, the consumption increase, and the consumers, through the new source of employment, would acquire more means to go to market to buy their sugar and other necessaries;—and lastly, the people generally would be rendered more happy and comfortable in their circumstances than they now are. The reverend gentleman then exhibited to the meeting the actual results of the first operations of the beet-root establishment to which he had adverted, by producing some of the finest samples, not only of the beet-root itself, but of the sugar made from it, in a refined state. These samples were minutely examined, and made a very strong and animating impression on the numerous and highly respectable body of gentlemen and farmers assembled. It is a very material fact to notice, that the sugar manufactured from beet-root by the patented principle adopted by the association, is entirely free from any disagreeable taste or smell, which have been hitherto the great objection urged against beet-root sugar.

HIGH RENTS FOR POOR LAND.—All the land for some miles south, east, and west of Dunkirk (Downechurch), in France, consists naturally of downs of loose sand, blown up from a gaining sea-shore on to a deep subsoil of sand, without water, and as sterile as the most naked rock. Yet in this district the rent of land is considerably higher than in the very fertile dis-

tract which, on the opposite coast of England, divides the Isle of Thanet from the rest of Kent. Why? . . .

This is the way in which the people about Dunkirk account for the high rents yielded by their naturally sterile land. Time was when the district was uninhabited, and then, of course no rent was paid. But a church having been built on the barren downs, and its patron saint, Eloi, being in great repute, pilgrims flocked thither from all parts of France and the low countries. By this means a town was established. In time the inhabitants of the town constructed a port—roads were next made from the port across the downs to the populous high lands, which had once formed the sea shore;—and afterwards canals in various directions, the flatness and softness of the sandy districts offering great facilities for canal cutting. In the end, the means of communication became more abundant in this district than in any other part of France, as they are still; and the result was, that the population of the district became very great, towns and villages being built at a short distance from each other; that, by means of canals, clay and other manures were easily obtained, and being applied to the sand, rendered it more productive than the ancient highlands of chalk; while those canals, again, afforded great facilities for taking produce to market. In this way, the cost of production becoming less and less by means of art, the natural sterile downs about Dunkirk, which have never been used except for producing food, became more valuable, subject to a higher degree of competition than the rich marsh lands between Sandwich and Reculver, on which the population was scanty, and of which every acre, in comparison with any market in the French low countries, is distant from market.—*Wakefield's Popular Politics.*

EARL FITZWILLIAM, ON THE NEW POOR-LAW.

(FROM THE LEEDS MERCURY.)

The following letter from Earl Fitzwilliam, in acknowledgment of a petition against the new poor-law, sent to him from Rastrick, will be read with great interest, as proceeding from one who has practical knowledge of the subject, and whose kindness of heart and feeling for the poor are beyond all possible doubt:—

“Milton, March 16, 1837.

“SIR—I shall be very willing to present the petition from Rastrick for the repeal of the poor-law amendment act, or any other petition which my old and early friends may entrust to my care. Whatever reminds me of the long connection that bound us together is grateful. I hope, however, they are not impatient for its presentation, as I shall not be in town for some time. Still more do I hope that they will not expect me to support its prayer; for of all the measures that the British legislature ever passed, I am inclined to think this is the most beneficial, as I am sure it is the most successful. Upwards of a year has now elapsed since I have been engaged very assiduously in the administration of the new law, and, from constant and minute observation of its effects, I can bear the most confident testimony to its beneficial tendency. I affirm this, not merely with respect to the interests of the rate-payers, which I deem the least important consideration, but more especially with respect to those of the labouring classes, whose habits, characters, and comforts are of far more value in my estimation; and it is in this point of view that I more particularly prize and admire the operation of the measure. In addition to my own testimony, I can say with truth I know of no man, endued with a kind heart and a sound head, who has witnessed its effects, who does not disagree with the petitioners. All who know

the law approve of it; the disapprovers are, without exception, among those who know it not.

“I cannot help suspecting that the genius of the measure is entirely misconceived in the West Riding—the real and important change, the change from which the new law derives almost all its efficacy, consists in the substitution of the board of guardians for the magistrates in petty sessions; that is to say, of a body of representatives, popularly elected and responsible to constituents, for two or three irremovable and irresponsible gentlemen.

“This is a change, which, I am sure, will not be disapproved in the West Riding; and yet as this is the great practical alteration that has been made, this is what makes me suspect that the very genius and spirit of the measure are misunderstood among you.

“Willing as I am to present the petition, but feeling a great interest in the wisdom, or otherwise, of the course pursued in the West Riding, I could not refrain from making you acquainted with the opinions of one who has devoted a great deal of his time to the administration and observation of the measure. If they should induce you to withdraw the petition I shall rejoice; if you persist in it, I shall still hope to be allowed to present it.

“I remain, Sir, your most faithful servant,

“FITZWILLIAM.

“Mr. Edw. Jackson, Toothill, Rastrick,
Huddersfield.”

NEW BEE-HIVE.—An inhabitant of Connecticut, Mr. Judd, has invented a contrivance, by means of which bees are made to build their cells, and deposit their honey in the chamber of a dwelling-house in neat little drawers, from which it may be taken fresh by the owner, without killing the insect. *The New York Gazette* describes it as follows:—“The hive has the appearance of, and is in part, a mahogany bureau or side-board, with drawers above and a closet below, with glass doors. The case or bureau is designed to be placed in a chamber of the house, or any other suitable building, and connected with the open air or outside of the house by a tube passing through the wall. The bees work and deposit their honey in drawers. When these or any of them are full, or it is desired to obtain honey, one or more of them may be taken out, the bees allowed to escape into the other part of the hive, and the honey taken away.” The glass doors allow the working of the bees to be observed; and it is added that the spaciousness, cleanliness, and the even temperature of the habitations provided for them in this manner, render them the more industrious.

THE POISONED VALLEY OF JAVA.—The usual meeting of the Royal Asiatic Society took place on Saturday se'night; the Right Hon. W. W. Wynn in the chair. A paper was read by Colonel Sykes on the poisoned Upas Valley at Betur, in Java, extracted from a letter by Mr. Loudon, containing a description of his visit to the place in July, 1830. According to the statement of Mr. Loudon, this valley is twenty miles in extent, and of a considerable width, it presents a most desolate appearance, the surface being sterile and without vegetation. The valley contains numerous skeletons of mammalia and birds. In one case the skeleton of a human being was seen with the head resting upon the right hand; according to tradition it is said that the neighbouring tribes were in the habit of driving their criminals into the valley to expiate their crimes. Mr. Loudon tried the experiment of lowering some dogs and fowls into the valley, and in every case animation became quickly suspended, although life was prolonged in some instances for ten minutes. The valley proved to be the crater of an extinguished volcano, in which carbonic acid gas is generated, like the Grotto del Cane, at Naples. The fabulous influence imputed to the Upas tree is, therefore, without foundation, the mortality being caused solely by the deleterious agency of the gas.

ON STATISTICS.

M. Moreau de Jonnis, member of the Institute of France, published, some years ago, in the *Review of Paris*, Statistical Researches upon the Pasturage of Europe, in which he states the comparative consumption of animal food in London, Paris, and Brussels annually.

LONDON.

	Weight in lbs.
110,000 Oxen	60,940,000
250,000 Calves	26,250,000
770,000 Sheep.....	58,520,000
250,000 Lambs	12,000,000
200,000 Pigs	32,000,000

1,580,000 Number of animals. 189,710,000 Total weight in lbs.

The population of London being 1,225,000 inhabitants, gives nearly 155 lbs. of meat annually for each person, which is a far higher proportion of consumption than is to be found in any other part of the world.

PARIS.

	Weight in lbs.
85,725 Oxen	42,433,875
74,385 Calves	7,364,115
337,697 Sheep	11,886,934
88,640 Pigs	1,560,064

586,447 Number of animals. 63,244,988 French lbs., or 68,005,363 English lbs.

The population of Paris being 715,000, gives nearly 93 lbs. of animal food for each person annually.

BRUSSELS.

	Weight in lbs.
9,190 Oxen	5,600,392
17,172 Calves	1,983,366
26,933 Sheep and Lambs....	142,062
3,362 Pigs	624,712

56,657 Number of animals. 9,630,532 Total Belgic lbs., or 9,928,388 English lbs.

The population of Brussels being 100,000, gives nearly 97 lbs. of animal food for each person annually.

ORIGIN OF TITHE IN ENGLAND.

The following is a copy of the charter of King Ethelwulf granting the tithe:—

I, Ethelwulf, by the grace of God, King of the West Saxons at the Holy Solemnity of Easter, for the health of my soul and prosperity of my kingdom, and the people committed by God Almighty to my charge, have, with the advice of the bishops, earls, and all the persons of condition in my dominions, fixed upon the prudent and serviceable resolution of granting the tenth of the lands throughout our whole kingdom to the holy churches and ministers of religion, our subjects officiated and settled in them, to be perpetually enjoyed by them with all the advantages of a free tenure and estate; it being likewise our will and pleasure that the unalterable and indefeasible grant shall for ever remain discharged from service due, to the Crown, and all other incumbrances incidental to lay fees, which grant has been made by us in honour of our Lord Jesus Christ, the blessed Virgin, and all Saints, and out of regard to the paschal solemnity, and that God Almighty may vouchsafe his blessings upon us and our posterity. This charter is engrossed and signed in the year of the incarnation of our Lord Jesus Christ, DCCCCLIV., indiction II. dated at Easter at our Palace called Wilton. Now, whoever shall be disposed to make any augmentation to our grant may God Almighty reward him in the increase of his posterity, but if any person shall presume to alienate the donation, or make suffer in any kind, let him expect to give an account of it before the tribunal of Christ, unless he repents of his injustice and makes timely restitution."

THE TURNIP FLY.

TO THE AGRICULTURISTS OF THE UNITED KINGDOM.

GENTLEMEN,—After much time and study I have discovered a most effectual invention for the preservation of turnip crops from the ravages of the fly, (or other insects,) its destructiveness of the young plants of this crop having I believe hitherto baffled all means yet tried to prevent it. However, I am now prepared to present you with an effectual remedy, (another desideratum of which is, it will come at a trifling expense,) and only wait a demonstration from the agricultural interest, to make me some reasonable adequate remuneration, to make the thing generally known.

I am, Gentlemen, your obedient servant,

W. STEPHENS.

FEEDING CATTLE ON FLAXSEED.—SYSTEM OF MR. WM. TAYLOR, AGRICULTURIST TO LORD VISCOUNT BANGOR.—Bruise the seed at a mill, or make it into meal; then take as much cut hay, or straw, or chaff, as will make a sufficient feed for your cow, or horse, &c., and put it into a pail or tub, and mix your linseed meal with it, and pour on boiling water sufficient to wet it well; cover it up closely, so as to prevent the steam escaping, and let it stand until cold, or nearly so (I have always found hot food injurious to cattle); two quarts of linseed meal, given daily to cow or horse, will add very much indeed to their fattening, and, of course, both to the quantity and quality of the cow's milk, but particularly to the quality. I have fed and fattened cattle both on linseed meal and linseed cake, mixed with cut hay, &c., and a little cold water sprinkled over it so as to make the meal stick to the hay, &c.; and always found the cattle thrive, and fatten uncommonly well on it. Linseed gruel is an excellent food for calves; and I have always found them thrive better with a little of it in their milk, than when fed solely on milk; and I seldom or never found a diseased calf that was partly fed on linseed gruel. I generally allowed one quart to each calf, at each end of the day, in lieu of as much milk, until they were six weeks old; after which I gave them, by degrees, four quarts daily, deducting the milk as I added the gruel. One quarter linseed meal when boiled about an hour, will make three quarts of excellent gruel. The calves got so fond of it, after getting it for some time, that they won't take their milk without it, except when very hungry indeed. Linseed should always be bruised, or made into meal, before it is given to any sort of cattle, otherwise they will void more or less of it whole, which is of little or no use to them.

GIGANTIC SIZE OF THE MYRTLE IN VAN DIEMEN'S LAND. — Those who have merely seen the stunted and puny myrtle of northern climates, can have but a poor conception of the gigantic size of that tree in southern latitudes. It forms the principal portion of the timber of Van Diemen's Land; and Bischoff, in his *History of New South Wales*, states that its appearance in regard to rough bark and thick foliage, very much resembles our elm; but there are no elms in this or any other country, by any means equal in size to the myrtle of Van Diemen's Land, the same being generally from one hundred and fifty to two hundred feet in height, and from thirty to forty feet in circumference. The wood, in quality and appearance, is very like cedar.

ON HEDGE-BIRDS WHICH ARE ALLEGED TO BE MORE OR LESS DESTRUCTIVE TO FIELD AND GARDEN CROPS.

(From the Quarterly Journal of Agriculture.)

DECIDEDLY DESTRUCTIVE HEDGE-BIRDS.

(Concluded from page 210.)

The chaffinch or shilfa (*Fringilla spiza*) is one of our prettiest and best known native birds, not so bright and gay indeed as the goldfinch, but tastefully dressed (if I may use the expression) in a party-coloured suit of pale blue, olive, wine red, and white. These colours also are much set off by the sprightly movements of the bird as it flits about with great activity from the tree to the hedge, and from the hedge to the ground, in persevering pursuit of food, being a most voracious feeder, and not easily satisfied. It is one of the commonest of our hedge-birds, being very hardy, and breeding twice or more during the summer. The nest being the neatest of all our British birds' nests, invites the plundering schoolboy, though the bird is not very frequently kept in cages here; while, on the continent, it is as great a favourite as the canary, and the species is so hunted by bird-catchers as to render them by no means plentiful in a wild state. Dr. Bechstein says, that "the passion for this bird is carried to such an extent in Thuringia, and those which sing well are sought for with so much activity, that scarcely a single chaffinch that warbles tolerably can be found throughout the province. As soon as one arrives from a neighbouring country whose notes appear good, all the bird-catchers are after it, and do not give up the pursuit till they have taken it. In Ruhl, a large manufacturing town in Thuringia, the inhabitants, who are mostly cutlers, have such a passion for chaffinches, that some have gone ninety miles from home to take with bird-lime one of those birds distinguished by its song, and have given one of their cows for a fine songster; from which has arisen their usual proverb, such a *chaffinch is worth a cow*. A common workman will give as much as sixteen shillings for a chaffinch he admires, and will willingly live on bread and water to save the money for this purpose."*

It would be well for our gardeners and farmers if this fancy for chaffinches were carried a little farther here, for a more destructive bird to growing crops and sown seeds could scarcely be named. The chaffinch seems to be most partial to hedges and orchards, but it may be found in all parts of the country wherever there is a bush or a tree; in the more open country as well as in the largest woods, varying some of its habits with the circumstances of the localities around it; for it will build its pretty nest in a low thorn bush about four feet from the ground, or in the fork of a tall elm five times that height; while it will sometimes place it on the face of a bare stump or branch, and at others conceal it in the thickest and leafiest part of a hawthorn.

The food of the chaffinch, however, is what requires our chief attention here, and on this subject there is some difference of opinion. When wild, according to Dr. Bechstein, the food of these birds in spring consists of all sorts of insects, which they carry to their young in their beaks; while

later in the season they eat various kinds of seeds, such as pine and fir seeds, when they inhabit forests that contain these; and in the fields, linseed, oats, rape, cabbage and lettuce. M. Montbelliard is more correct when he says the parents feed their brood with caterpillars and insects, and also eat these themselves, though their ordinary subsistence is small seeds, such as those of the white thorn, poppy, burdock, the hips of roses, and especially beech, musk, hemp and rape seed. They feed also, he says, on wheat, and even on oats, and are expert at shelling the grain, to obtain the mealy substance. A recent periodical writer affirms that the chaffinch is "during summer entirely insectivorous," a palpable mistake; for though it feeds its young, as we have seen from M. Montbelliard, almost wholly on insects, the old birds always prefer vegetable food. Accordingly, in the earlier part of the year they look out for the seeds that are first ripe, such as those of groundsel, chick-weed, nail-wort (*Draba verna*), and the speedwells and dead nettles; and, when they cannot procure the seeds, eat the young shoots of these plants. The mistaken statement, that they are wholly insectivorous in summer, may have arisen from their being prolific breeders, and requiring, of course, a large supply of insects for their young. I recollect that when I was a school-boy I reared a young chaffinch from the nest, and, previous to its first moult, it eagerly devoured flies and other insects; but afterwards, though it retained its habit of snapping at every fly that came near it, and even of killing them, it always dropped them in the cage; and I never observed it to swallow any insect after this period.

The following observations by an excellent observer, the Rev. Mr. Bree, are worthy of attention on the point in question. He tells us, that in the early part of summer his attention was attracted by a chaffinch, which, as he sat in his room, he remarked to pay repeated visits to a broom bush immediately in front of his window. The bird remained a considerable time in the bush at each visit, and appeared exceedingly busy about something, hopping from spray to spray, searching and rummaging among the branches, and evidently using his bill. This gave rise to the suspicion that the object of plunder was the young soft seeds of the broom, which were at the time much in the same state as green peas when they are fit to gather; but, upon examination, every pod was found to be whole and untouched. The bush, however, was smothered with plant lice (*Aphides*), and these insects were ascertained to be what had attracted the chaffinch, and not the seeds, as had been conjectured. There is little doubt that these plant-lice were carried off to feed a young brood, and not eaten by the bird itself.

During winter, it is probable, when seeds are scarce or covered with snow, that the chaffinch is compelled to become omnivorous like the tits, and to put up with whatever food it can most readily procure: and accordingly, in severe weather, these birds may be observed in numbers, crowding about compost heaps in the fields, where little can be found except the maggots of flies, or an occasional beetle. It may likewise be in pursuit of similar prey that chaffinches may be seen resorting to the tops of moss-grown walls, since even during cold frosty weather, particularly when the sun shines out, we may at times in such places see a lady-bird peep out from its drowsy retreat to ascertain whether the sunshine is really the announcement of spring.

* Bechstein's Cage Birds, p. 183, note.

These visits of the chaffinches in winter to the tops of mossy walls, however, have been differently explained. Mr. Knapp tells us he has often thought that the chaffinch and some other birds obtain much of their support in winter, and more especially when the ground is covered with snow, by feeding upon the capsules or fertile heads of various mosses, having frequently noticed them pecking and masticating something upon the walls, and in such places where these plants abound, and nothing besides that could afford sustenance to any animated creature. The various species of screw moss (*Tortula*) perfect their capsules principally during those periods in which other seeds, at least in the pod, could sparingly be found. The object, he adds, of many of these early plants, has been considered as obscure, and their profusion a general subject of admiration; but if the preceding conjecture be correct, that they afford nourishment to these poor little birds in a season of destitution, it affords us another instance of the benevolence of the Creator, extending as far as we can perceive, through every department of creation.

Now all this may undoubtedly be true, though to me it appears somewhat doubtful, inasmuch as the contents of the capsules of mosses are so very small as to afford little nourishment; but on the walls and other places where such mosses grow, small phanerogamous plants, such as vernal nail-wort, often abound; and, though the plants may have died and disappeared, being annuals, the seeds for a future crop must be scattered about, and these the chaffinch knows well how to find, as, unfortunately, it does those which are sown in fields and gardens. This bird is indeed a most destructive pest in newly sown grounds, to most sorts of seeds. In the nurseries, for example, the chaffinches search for and devour most sorts of the seeds of trees and shrubs the moment they are sown, such as those of the mountain-ash, or rowan tree, the hawthorn, the fir, beech, and many others; and the beds must either be protected from their depredations by netting, or by some of the usual means of scaring birds, otherwise there will be little or no braid, and the seedsman may suffer serious reproach for furnishing bad seed when he is not in the least to blame. In the garden, the chaffinch is no less destructive to newly sown beds, both in the autumn and spring, particularly those of lettuce, cabbage, cauliflower, brocoli, turnips, and radishes. These birds will also nip off the seed-leaves as soon as the braid appears, after which they will not touch the plants till the seeds begin to ripen, when their depredations are renewed. How Mr. Jessee could rank the chaffinch among "harmless" birds, I cannot conjecture, as its pertinacity in plundering is well known to every gardener. It is, however, very easily scared by any of the usual means, and no garden crop will be touched by it if proper precautions be timely taken.

Amongst other injuries done by chaffinches, I must not omit that these birds, as Mr. Knapp correctly states, make sad havoc with some of our spring flowers; and the polyanthus in March, in our sheltered borders, is very commonly stripped of all its blossoms by these little plunderers, probably to obtain the immature seeds at the base of their tubes. They often also defoliate the spikes or whorls of that common weed, red dead nettle or archangel (*Lamium purpureum*); and they may be seen in spring with their bills filled with the green seeds of this early flowering plant.

The mountain finch, or brambling (*Fringilla montifringilla*), is so very similar in general appearance to the chaffinch, as to be readily confounded with it by those who have little knowledge of ornithology. Its call-notes also are so like, that it may be taken with a chaffinch for a call bird. It is stated to be pretty common in Yorkshire during winter, associating in flocks with the chaffinches. It is much less common here, however, than on the continent. In Thuringia, Dr. Bechstein says they assemble in flocks, reckoned at about one hundred thousand, to feed on beach-mast; and, in 1765, more than six hundred dozen were killed daily near Sarburg.

The bullfinch (*Loxia pyrrhula*, Linn.), though a favourite cage-bird, and, when taught to whistle tunes, sold at a high price, has no claims to regard in its wild state, and may rank as a decidedly destructive bird. Bewick, indeed, tells us, that it frequents gardens in the spring, where it is usefully busy in destroying the worms which are lodged in the tender buds. The bullfinch, however, does not destroy worms nor any species of insect, as it does not eat any food of this sort; and if it did destroy the worms lodged in the buds, it must destroy the buds before it could get at them. Conjectures of this kind (for this is mere conjecture,) are almost certain to be incorrect, and are easily disproved by investigation. Dr. Townson, not contented with the mere observation of the actions of the birds, opened the stomachs of two bullfinches which had been shot in a cherry-tree, in the month of February, and, exclusively of a few grains of sand, and some small pebbles, found nothing but the cores of flower-buds, consisting of embryo flowers, and, with the assistance of a magnifying glass, he could ascertain all the parts of the blossoms. "The mischief," he says, "these little epicures had done, and probably at one breakfast, is incredible. From the quantity of buds I found in their stomachs, each of which buds was composed of four or five flowers, I think they had not eaten less than a thousand a piece." Even at half this rate of eating, a few hundred bullfinches would disbud the largest orchards to a most injurious extent.

The ingenious journalist, whom I have so often referred to, without apparently being aware of the explicit facts just stated, gives a most minute and accurate account of the proceedings of the bullfinch in disbudbing trees. The notion, he tells us, that the bullfinch attacks only such buds as contain the embryo of an insect, is certainly not correct, or if such a benefit is conferred, it is not with the intention of eating the insect. The injuries done by these birds, indeed, are more than is commonly supposed, for on looking beneath the trees or bushes where they have been feeding, the ground will be seen to be strewn with the envelopes of the buds, which they shell off as they do the husks of seeds.

In severe snowy weather the bullfinch feeds chiefly on the hips of the wild roses; but when these are exhausted or destroyed, it resorts to orchards and gardens, to feed on the blossom buds of trees, and, in selecting these, we are told by the same author, that it is very choice and dainty, seldom feeding upon two kinds at the same time. For the most part it begins with the swelling buds of the largest and most early gooseberries. A small flock of about half a dozen may thus be seen going regularly over every gooseberry bush in a garden once a-day for a week or so, till few of the best formed buds escape them, and, of course, the

crop is destroyed for that season. When the gooseberry buds are finished, they next attack the cherries, with which they make tremendous havoc. Our author has an early wall cherry, that has for years been a great favourite with the bullfinch family, and its excellence seems to be communicated to each successive generation. It buds profusely, but is annually stripped of its promise by the spring visits of the bullfinches, before the blossoms expand. These birds next attack the blossoms of the plumb-trees, but not those of the peaches or apricots, and, when these are exhausted, they go to the sloe trees in the hedges.

Another writer says, "I saw a bullfinch alight on a cherry-tree, and before I could charge a gun, he had completely stripped every blossom bud from one long branch." This branch bore no fruit, of course, but all the rest of the branches on the same tree bore plentifully. More distinct proof could not be added.

The attacks of these destructive birds are not always confined to fruit-trees, for they will frequently run over every bush in the shrubbery, and devour thousands of the blossom buds of flowering shrubs, particularly the lilac, the Tartarian honeysuckle, and the Japan corchorus. They will also eat off, particularly in severe weather, the leaves of carnations, though they are not so fond of alighting low down, like the sparrow. Dr. Bechstein says they relish the pips of apples, but it is doubtful whether, in a wild state, they peck into the fruit to get at these.

I am not aware whether the bullfinches can be easily scared by any of the usual means; but in places exposed to their depredations, if none of these succeed upon trial, recourse must be had to the gun, and, in this way, they may easily be kept under, as they are nowhere in very great numbers. I have observed that in Scotland they increase rapidly, where plantations of fir have been made, as they are fond of the seeds, and prefer the broad platform of a silver fir branch for their nest.

The house-sparrow (*Passer domesticus*, Ray), is by far the most mischievous of the smaller birds which have hitherto come under our notice, and, from its being an exceedingly prolific breeder, and omnivorous as to food, its numbers, in most parts of the country, are very great. One pair of birds will often rear no fewer than fifteen young ones in the course of a season, and as they build out of the reach of danger, these seldom meet with accidents in the earlier stage of their existence. It is thus, accordingly, that the numerous flocks are produced, which we see collect in the hedges and trees, to make their descent into fields and gardens, which they plunder without mercy, often to a most ruinous extent, than most previous observers have been aware of, as I hope I shall be able satisfactorily to prove. It is rather a singular circumstance that the greater number of writers on natural history undertake the defence of the sparrow against what they term popular prejudices, but, like most partizans for a particular side of a question, they are apt to prove too much, or to overrate supposed benefits, and underrate supposed damage. It may be as well to state one or two of the arguments usually adduced in favour of the sparrow, and point out their fallacy.

The basis of the usual arguments of the advocates for sparrows are such as the following, which I take from a common work on ornithology: "The ignorant," says the writer, "ever ready to judge from superficial observation, have condemned the sparrow, because it feeds on the produce of the farmer.

as a most noxious bird, fit only to be extirpated. It is to be recollected, however, that insects form no inconsiderable part of the food of these birds. Bradley, in his Treatise on Husbandry and Gardening, has proved by actual observation, that a pair of sparrows, during the time they had young, carried to the nest forty caterpillars in one hour; and supposing them employed with equal diligence for twelve hours a-day, they will in one week consume the astonishing number of 3360 caterpillars. Thus an all-wise Providence checks the inordinate increase of insects; which, however useful in themselves, would, if left unmolested, propagate with such rapidity, as to consume the vegetable productions of the earth, and leave it a desert waste."

Another writer, who is more partial to imagining facts than proving them from observation, is pleased to inform us, that "the house-sparrow does more good by destroying the house-fly and the cabbage butterfly, than it does injury to gardens or to field crops." We might very safely, I think, offer to pay a sovereign for every house-fly or cabbage butterfly proved to be caught by sparrows; for though they will carry off to their young the smooth caterpillars, but not the hairy ones of the cabbage butterfly (*Pontia Brassicae*), as well as the grubs and pupæ of the flies, they will not touch the full-grown insects. His proof is, that sparrows are said to be trained to catch butterflies in Persia; but though some bird called a sparrow may be thus trained, it does not follow that it is the house-sparrow.

In this third series of Gleanings, Mr. Jesse says, "that there is a custom in the village in which I at present reside, and, I believe, in most others in England, for the churchwardens to give a certain sum of money for every dozen heads of sparrows which are brought to them. I verily believe, however, that the worthy churchwardens are grievously imposed upon, as I hear of the heads of chaffinches, tomits, and other harmless birds, being substituted for them. Be this as it may, my object now is to endeavour to rescue the sparrow from the odium it has long been under of doing great injury to the farmer. That it will feed on corn and peas there can be no doubt; but this may be in a great measure prevented by setting boys to watch during the short space the corn is ripe. With this exception, I believe sparrows are of the greatest utility to the farmer, devouring myriads of insects, which would otherwise do him infinite injury: this is particularly the case when they have young ones, all of which are fed with insects and caterpillars; and I feel convinced that they would not have been so generally distributed, over most parts of the world, had they not been intended for some useful purpose; indeed, many observant persons are now aware, that, in places where sparrows have been destroyed, some sorts of fruit-trees have been stripped of their leaves by caterpillars."

Dr. Bechstein, in the same spirit says, "if, unfortunately, it is true that sparrows cause great injury in ripe fields of wheat, barley, and peas, it must be acknowledged that they are very useful in our orchards and gardens, by destroying in the spring thousands of insects on which they feed their young." His French translator adds, that "the destruction of sparrows has been so great an evil in the countries where the government had ordered it, that it has been found necessary to rescind the order."

Mr. Knapp again tells us, "sparrows seem to be

appointed by nature as one of the agents, for keeping from undue increase another race of creatures, and by their prolificacy they accomplish it. In the spring and early part of the summer, before the corn becomes ripe, they are insectivorous, and their constantly increasing families require an unceasing supply of food. We see them every minute of the day in continual progress, flying from the nest for a supply, and returning with rapid wing with a grub, a caterpillar, or some reptile; and the numbers captured by them in the course of these travels are incredibly numerous, keeping under the increase of these races, and making ample restitution for their plunderings and thefts."

This account, though by much too favourable to the sparrow, is nearer the truth than any of the preceding; but the following which not only exculpates the sparrow by a gross misstatement, but attacks the redbreast, contains as many errors as lines.

"Country gentlemen," says the writer, "complain of their fruit being devoured by birds, and orders are given for an indiscriminate destruction of birds' nests; sparrows more especially, are persecuted without mercy, as being the chief aggressors; while the robin redbreast, conceived to be the most innocent inhabitant of the garden, is fostered and protected. Now a little acquaintance with the natural history of these two birds would set their characters in opposite lights. The sparrows, more especially in country situations, very rarely frequent the garden; because, grain being their chief food, they search for it round the farmyard, the rick, and the stable: they resort to such situations accordingly. The robins, on the other hand, are the great devourers of the small fruits; they come from the nest just before the currants are ripe; and they immediately spread themselves over the adjacent gardens, which they do not quit so long as there is any thing to pillage. It may appear strange that no writers on our native birds should have been aware of these facts; but it is only a proof how little those persons who are, nevertheless, interested in knowing such things, attend to the habits and economy of beings continually before their eyes." Our former paper sets the character of the redbreast in its true light: this gentleman, however, is noted for his errors on practical subjects.

Another theory has been recently broached in defence of the sparrow and other seed-eating birds, by a fanciful writer who says, "that each bird (finch) eats 100 seeds every day, by no means an extravagant calculation; which, however, gives to each the prevention of 36,500 weeds every year. The birds cannot be numbered; but when the vast flocks which are seen every where are considered, a hundred millions must be greatly below the actual number. That would give the immense prevention of weeds by the finches alone at the astonishing number of 3,650,000,000,000. Say that each weed would, upon an average, occupy a square inch (and many of them occupy 100 square inches) and the quantity of land which the finches annually prevent from being overrun, is little short of 600,000 acres, or more than one-seventh part of the total surface of England and Wales, whether cultivated or uncultivated."

"Countries," he adds, "where the weeds get the better of the little birds, are in a sure progress of sterility. The settlers on the northern shores of Lake Ontario in Canada, know what it is to have fields overrun with the Canadian thistle; and in many parts of the north of Scotland where there

were no bushes for birds, were sadly infested with the common field marigold, before belts and copses began to be planted."

A very easy method of settling these points would be, to leave the sparrows and the other birds unmolested to free the cabbages from caterpillars, the houses from the plague of flies, and the fields and gardens from weeds; but every body who ever had a garden knows that in certain seasons favourable to their breeding, the cabbages and other growing crops will be devoured by caterpillars, and without careful weeding the beds will be overgrown with weeds where the sparrows and other birds are even unusually numerous. In a garden, for example, adjacent to where I am now writing, daily visited by hundreds of sparrows, while extensive damage is done by them to many of the crops, the cabbages in summer were very much eaten by caterpillars, and above all the groundsel and other weeds grew as closely as if they had been sown on purpose. In my own garden, it required great care and assiduity to keep down the weeds, and to clear away the caterpillars by hand picking: the sparrows would never have kept them under, and every practical man must laugh at the utter absurdity of such a fancy which could only have been devised in the closet. Mr. Bradley's calculation indeed looks something like fact; but instead of giving the sparrows twelve hours, he would have been nearer the truth if he had limited it to half the number, and this would very greatly reduce his estimate. Buffon, so often improperly blamed for his inaccuracy, would have set those fanciers right respecting the sparrow, had they taken the trouble to consult him. "Persons," he says, "who had kept them in cages assured him, that a single pair of sparrows consume nearly twenty pounds weight of corn every year; and taking this and their prodigious numbers into consideration, what enormous destruction must they make over our fields; for though they feed their young with insects, they chiefly subsist on the best grain. They follow the sower in seed time, and the reaper in harvest; they attend the thrashers at the barns, and the poulterer when he scatters grain to his fowls; they visit the pigeon-houses and pierce the craw of the young pigeons to extract the food; they also eat bees and are thus disposed to destroy the only insects useful to man."

A practical writer says justly, that "small as these birds appear to be, their consumption of grain in the fields both in seed time and harvest, is very great; they, very often, taking almost every grain all round the field to the breadth of eight or ten feet, and frequently to as many yards, while their destruction of the roofs of thatched buildings is perceptible to every one." It is no trifling loss to a corn grower, to lose the quantity of grain which these birds consume in the corn stacks in the farm-yard; and he is of opinion that each bird will eat its own weight of corn daily. He has known, he says, as many as 3,000 caught in a single day on one farm with a net, and suppose we allow two ounces for the average weight of each bird, the consumption daily would be about ten bushels of corn for that number of birds.

A periodical writer says that a few years ago he was surprised to see the snow under a May-duke cherry, covered with the husks of buds which he ascertained to have been done by the sparrows, and, had they not been prevented, they would have taken the whole. The birds, says the same writer, uniformly take off all my plumb crop, as

well as the gooseberries and currants, and frequently the cherries. He remarked for several years, that he scarcely got a green gage from two trees at the lower part of his garden, while he usually had some in a favourable season on a tree near the house: he also observed, that all the fruit buds were regularly taken off the finer sorts of gooseberries, while the smaller and common kinds escaped, no doubt from the larger buds proving more tempting than the smaller.

I find, indeed, that even in the mildest winters, the sparrows extensively disbud the trees and shrubs in my garden, more particularly the red or white currant buds, though they seldom if ever touch the black currant. The blossom buds of the lilac are occasionally attacked. A pair of sparrows, indeed, will do more damage in this way in an hour than all the caterpillars hatched on these trees in the most prolific years will do in a whole season. Miller remarks, long ago, that the sparrows also disbud the carnations, picotees, and pinks, and I observed, last spring, that they not only devoured the buds, but the younger leaves of carnations, leaving on some plants little besides the naked stumps. At first, on observing the circumstance, I imagined the leaves had been eaten by cats, as they had eaten down a clump of garden grass near at hand, till I repeatedly saw the sparrows nibbling at the carnations with their sharp-edged bills, that cut like a pair of scissors, and whether it is buds or grain, they can with such an instrument readily get at the core, which alone they eat.

But though all these are serious depredations, they appear to me not to be so injurious as another which is little noticed—the destruction of the braid of field and garden plants, by cutting off the seed-leaves the instant they come through the ground. Every gardener and farmer knows that sparrows destroy great quantities of seed after it has been sown, particularly spinage, lettuce, radish, turnip, and cabbage; but when these plants come up, the depredations of the sparrows are increased rather than diminished, though the snails, slugs, and caterpillars usually get credit for the damage. It was, indeed, some time before I could convince myself it was the sparrows that ate off whole rows of my peas and spinage, and beds of radishes and seedling cabbage, being rather pleased to see them alighting on the braids, thinking the opinion right that they were clearing away insects. A single experiment proved that the sparrows were indubitably the aggressors. Threads studded with feathers were stretched across the beds, which so effectually scared the sparrows, that they never ventured again to alight upon them, and the seedling plants grew undisturbed, while other beds left unprotected were as before entirely stript of the plants. Pigeons will do the same both with peas, lettuce, and spinage, but they are not worse than the sparrows.

The turnip-fly, it is but too well known, does extensive damage to the turnip crops in the seed leaf; but I have not a doubt that the fly is frequently accused when there is no fly to be found, in the same way as I accused the slugs and caterpillars of eating my young cabbages, lettuce, and radishes. The field crops of turnips, indeed, appear in their seed-leaf just about the time when the sparrows begin to collect in numerous flocks in the hedges, and as one sparrow will nip off several dozen seedling turnips at a meal, the damage done by a flock of fifty or a hundred resorting every day to a turnip field must be immense. I

do not speak from conjecture; I had a bed of turnips in my garden the last spring entirely eaten off by the sparrows, before I was aware of the cause, and I recollect that a year or two ago a neighbour had a similar loss, which he attributed to the fly, but though I myself carefully looked over this bed two or three times a day to discover the fly, I never observed one. I have not the slightest doubt that it was the sparrows alone. I cannot too strongly impress this upon the attention of turnip growers.

Taking the preceding details into consideration, it is much to be wished that some effectual method could be devised for preventing the depredations of sparrows. One effectual mode of diminishing their numbers is to catch them in a net at night when they roost by whole companies in ricks and stacks, or in a large trap net with a decoy bird, in both which ways I have known hundreds taken in a few hours. Many may be killed at a single shot by scattering corn in a long train, and firing at them while feeding.

Count Buffon having been told that if sulphur were smoked under trees where the sparrows sleep at night they would be suffocated and drop dead; he tried the experiment, but without success, though he took much pains and was interested in the issue, as he could not get them driven from the neighbourhood of his voleries. He placed on a wall covered with great Indian chesnuts, where the sparrows assembled every evening in great numbers, pots filled with sulphur, mixed with a little charcoal and rosin, and these substances being set on fire, caused a thick smoke, which had no other effect than to awaken the birds. As the volume ascended, they removed to the tops of the trees, and then retired to the neighbouring houses, but not one dropped.

Imagining that the sparrows might readily be poisoned, I mixed some arsenic with oatmeal, and strewed it in the paths between the beds of seedlings which they were daily devouring, but they never touched the poison, and my experiment was as unsuccessful as that of Buffon's with the sulphur. Others, however, have used arsenic successfully, in particular, Mr. Stafford, gardener to R. Arkwright, Esq. of Crawford, Derbyshire. His account is too interesting to suffer abridgement.

"About twenty-six years ago," he says, "I went to live at Swinfin House, near Lichfield; it was surrounded by a rookery, containing many thousand nests, under which the sparrows built their nests, or rather formed habitations amongst the inequalities of the small wood that formed the foundations of the rooks' nests. Such were the numbers of the sparrows, that I soon found, both from reports and by my own experience, that nothing upon which they feed escape destruction. I mentioned a relation of mine the havoc which these birds made on my crops of peas, particularly when in a green state, and fit for the table, and he recommended me to make use of the following method for their extirpation:

"Take a flat earthen dish (a flowerpot-feeder will do), in which put a quantity of soaked bread, and place it on the garden wall, or in some place where no domestic animal will be likely to get at it. By paying attention to keeping up a supply, the sparrows will attend quite regularly to be fed; then about the sixth or eighth day, mix a small quantity of white arsenic with the bread. This, as well as their other food, should be given early in the morning, and before night its effects will be visible both on the old and the young ones.

"The first time I tried it," Mr. Stafford continues, "every part of the garden and buildings exhibited its power, in the number of dead and dying birds; and, before three days had elapsed, their destruction was so complete that I could scarcely hear one about the premises. My curiosity led me to examine the ground under the rooks' nests, which I found thickly strewn with the young sparrows, thrown out of the nests as soon as life had become extinct. This method I practised for the five years I was with the Swinfin family, and always with the same success. I likewise recommended many farmers to try its effects, who all found it to exceed their expectations. A neighbouring clergyman applied to me, one morning, for a little of the mixture, and, before the evening, he desired me to go and witness the destruction it had made. I have since felt warranted in recommending it whenever I had an opportunity; and, after twenty-five years' experience, I feel anxious to communicate it to the public, well knowing that, in many instances, the loss occasioned by these birds is more than equal to a tenth of the crop, and I think that most practical men who have made observations on the corn-fields at the time of harvest, will be of the same opinion. If the whole of a parish were to put the above plan into operation in the month of June, I make no doubt that almost every sparrow might be destroyed; and, when we take into consideration the great sums paid annually in some parishes to persons who undertake to destroy these birds, I think the method here explained will be found to be not only the best, but likewise the cheapest."

It is but right to mention, that some who have tried Mr. Stafford's method of poisoning the sparrows, have not found it succeed; and one gentleman who was disappointed in it, and having a large kitchen garden much infested with sparrows and chaffinches, was induced to go to considerable trouble and expense to prevent their ravages. He caused his labourers, when not otherwise employed, to prepare rods of wood about two inches broad, an inch and a half thick, and ten or twelve feet long, joining them together at the ends with similar rods, nine feet long, and, in the centre of the same, a similar rod to strengthen it. This frame is then wired with copper wire, close enough to prevent the birds getting through. The frame thus prepared is raised over the beds upon pieces of wood six inches long—one piece at each corner of the frame, and one in the centre. Wire is likewise passed around these pieces of wood to prevent the birds getting in at the sides. He says it is much cheaper than netting, and more sightly than matting.

These wire-frames must prove effectual, but few would like the expense and trouble who could avoid it, and I am convinced, from my own experience, that threads with feathers or bits of paper tied along, and suspended so as to dangle over the beds, will prove effective in scaring both sparrows and chaffinches, which, with all their pert impudence, are exceedingly wary and fearful of danger. A coat and hat stuffed with straw so as to have some resemblance to a man, will not intimidate them so effectually as the thread and feathers. A neighbour of mine once set up such a man of straw in a cherry-tree to scare the sparrows from the ripe cherries, among which they were making sad havoc, but, after the first day or two, when the novelty wore off, they alighted close to it, and devoured the cherries as before. Netting, in such cases, is the only effectual preventive, and unless

threads and feathers, which I have not tried, might do, netting, or tying up the bunches in gauze, or thin muslin bags, is the only way of protecting ripe grapes on the open walls, of which sparrows are very fond, and devour great quantities, always selecting the largest and the ripest, and sadly disfiguring the bunches. Should any person choose to try the thread and feathers, it ought to be fixed at some little distance from the fruit on the wall, so as to allow the feathers to move freely, as it appears to be their motion which intimidates the sparrows. White worsted threads, without feathers or paper, will scare them from peas or spinnage, for a short time in spring, though they soon become familiar with this, but I have never found that they venture near when feathers or paper are used.

The tree-sparrow (*Passer montana*, Ray) is somewhat similar in appearance to the house-sparrow; sufficiently so to be popularly confounded therewith, but very different in habits. I do not mean by the tree-sparrows those which build large nests high on the branches of trees; these are only house-sparrows. The tree-sparrow always builds in the holes of trees, at a little distance from the ground, which the house-sparrow rarely, if ever, does. The tree-sparrow has the throat, and a spot behind the eyes, black, and the sides of the head white, while the house-sparrow is black all round the eyes. The wings again in the tree-sparrow, have two white cross-bands, while the house-sparrow has only one. The tree-sparrow is by no means common, though it is plentiful in Yorkshire and some other localities. It never comes near houses, but frequents gardens, orchards, and fields abounding with trees and hedges. It is very lively, and is in continual motion, but does not hop so awkwardly as the house-sparrow, fluttering along, and jerking its tail, somewhat like a wagtail. It is not so pert as the house-sparrow, though it is not very shy, but will follow travellers on the roads, flying low, with a sort of wheeling motion. It is chiefly destructive in seed time and harvest, when considerable flocks assemble and plunder the farm-fields, more after the fashion of the linnets. Its depredations may be prevented by one or other of the plans already pointed out.

I have now gone over all the British hedge-birds which I think can be alleged to be injurious to field and garden crops; but, besides these, there are several other birds which commit depredations, but do not well come under the designation which stands at the head of this paper. Partridges, for example, and other game birds, never settle on hedges, and cannot be termed hedge-birds; and the magpie, though partly a hedge-bird, does little injury to crops, though it is otherwise injurious. The raven and the rook also merit especial notice; but, for the present, I have extended my remarks much farther than I had any idea of when I commenced, and must leave the *crows* and the *game* for another communication.

J. R.

LUSUS NATURÆ.—A lamb was taken last week from a beautiful ewe belonging to Mr. Philip Francis, of Moor, which had two perfect bodies, eight legs, one head, and a cleft tongue. The same may be seen at Read's Veterinary Establishment, Crediton.

TO CLARK HILLYARD, Esq.

SIR,—In a late number of the Northampton Chronicle, I took the liberty of addressing to you a few words on turnip culture, with the view of tracing how far the mode of rearing this crop, as at present practised, is susceptible of the attacks of insects, and whether a little variation from the practice of this mode, would not in some degree, palliate, if not altogether cure the evil complained of. In my previous letter I pointed out, what I conceived to be, deficiencies in the system of turnip cultivation in this vicinity; first, I deprecated the neglect of a proper selection of clean, well kept seed; I next noticed the baneful practice of using seed which has been continuously raised on the same land, and of the current year's growth; lastly, I allude to the uneconomical practice of sowing broad cast in preference to drilling, and concluded by alluding to other defects, to which I now beg to re-call your attention—first, as regards the quantity of seed generally allowed in this country for an acre. I do not pretend to speak from experience, but have been told that many farmers content themselves with two pounds to an acre; now I willingly concede, that if the seeds were equally disposed of over the surface of an acre, a much smaller quantity would suffice, provided that the arrival of every plant to maturity were ensured; but to show that this very limited quantity of seed per acre is inadequate to realise the expectations of the sower, even by the drilling system, which should require less seed per acre than that of the broad cast does, I shall just take the liberty of giving one quotation from Mr. Loudon on the insects and diseases of turnips—"there are no less (says this Prince of writers on rural economy) than six different insects which feed upon the turnip—from the moment the seed is committed to the ground, it is exposed to the attacks of the wire worm, which frequently destroys one-fourth of the crop.—On the appearance of the Coteydon leaves, the small jumping beetle (*Hattica nemorum*) makes its appearance; in the meantime another beetle enemy (*Curculio contractus*) deposits its eggs in the Cuticle, the grub hatches, and decay follows; when the rough leaves appear, they furnish food to the black caterpillar of a tenthredo or saw fly, the mature leaves are next devoured by the caterpillar of the turnip butterfly (*Pontia rapae*). Lastly, the grub of another small weevil produces knobs and tubercles." Now, Sir, since we see that the turnip is assailed by such a host of enemies, the first of which is supposed to destroy one-fourth of the crop alone, am I not justified in calling in question the prudence of those who make use of such a limited quantity of seed as two pounds per acre. I may just mention that the farmers of Perthshire, than whom there are no better turnip growers in the kingdom, by the drilling system usually sow from three to four pounds the acre, by which practice they are protected from many contingencies to which the scanty sower is liable, the advantage of having abundance of strong healthy plants, at the thinning season, to select from, being of the first importance. There is one advantage arising out of thick sowing to which I beg to call the Northamptonshire farmer's particular attention, which is, that by adding to the quantity of the seed sown, the power of resistance is proportionally increased, so that by the united vegetative pressure of the plants upwards, they are enabled to force their way through the adhesive crust, which always forms in the surface of stiff soils. An opinion seems to prevail amongst those agricultural gentlemen with whom I have the pleasure of being acquainted, that clay land is any thing but calculated for turnip grow-

ing, they say that it is impossible to feed off turnip on clay land; an objection is also offered on account of the stiffness of the soil, preventing the regular springing of the seeds; now any one who has had the opportunity of witnessing farming operations in the Carse of Gourie, will admit that tract of land to be as strong clay as any in Northamptonshire, and there they might have seen the accumulated power of vegetative motion produced by liberal sowing, raise the surface crust of the drill from one end to the other. With regard to the former objection, I must admit, that under the present system of tillage, it may hold good, yet, if instead of ploughing four to six inches deep, the subsoil were well broken up to a proper depth, and the surface become pulverized so as to admit the surface moisture to find its way to lower level, this, together with judicious draining, would in a great measure meet the objection. I am aware, Sir, of the prejudice that exists here against deep ploughing, and like yourself, may "get well smoked for my pains," but let those who dread the effects of deep ploughing, consult the works of the day devoted to agricultural literature, and there see what is effecting in Stirlingshire by Smith's subsoil plough; but to proceed, if there is one thing connected with turnip rearing of importance above another, it is as regards the time of sowing, this, I observed in my former letter, may be made subservient in a high degree for evading the attacks of the insect; but to avail ourselves of its advantages, much careful investigation is necessary; in the first place, we must endeavour to ascertain the period which turnip seed of a certain age requires to be in the ground, before the coteydon or seed leaves are produced; we must also calculate the periodical return of the insect, which requires a certain amount of warmth, to bring it into an active state of existence; thus, if turnip seed sown on the 25th of May, shall require ten days to come into the seed leaf, and then be attacked, I think it pretty evident that, had that seed been sown six or eight days earlier, escape should be next to certain, and that without much risk of the plants running to seed. There is, however, another circumstance connected with this investigation which requires special consideration, namely, the degree of forwardness or backwardness of the season, this will affect the state of the insect considerably—will advance, or retard its maturation accordingly; in other words, the insect will appear sooner in an early season, than in a late one—here again the farmer must fall back on his calculating powers; to gain his object let him for this purpose, pitch on some particular tree, or species of tree, on the farm—say the elm, as being the most prevailing sort here, let him observe the date at which this tree comes into full leaf, and then mark the interval between this and the appearance of the enemy, thus, should the tree come into leaf a given number of days sooner than it did the previous year, let him sow as many days sooner, so as to keep the enemy ten days' march behind him.

The only other observation which I shall trouble you with, is the very simple and effective mode of preventing the attack of the turnip insect (I mean the common beetle or fly,) and which I have been in the habit of recommending to my agricultural friends for these last seven years. Having spent a considerable portion of my years as a seedsman, I, of course, was aware that if properly kept, the seeds of all the Brassica family will vegetate at any age, I therefore recommended taking two, three, and four years old seed, in equal proportions for sowing, having previously been properly mixed: by this plan there are a few days between the coming up of each year's

seed; so that if the first crop is taken, the beetle, having accomplished the work of destruction, leaves the ground, when the second and third seed spring has the chance of being unmolested. Mr. Loudon, I find not only recommends this practice, but proposes a process which is a decided improvement, which is, after having mixed the seed, he divides the quantity and steeps one half of it twenty-four hours in water, which, being dried the following day in the sun, is then mixed with the other half, by which the chances of escape are doubled.

I am, Sir, your most obedient servant,
A FRIEND TO FARMING.

TITHE COMMUTATION BILL.

TO THE LANDOWNERS OF ENGLAND AND WALES.

The following is the copy of a petition which has recently been presented to the House of Commons from several landowners in the county of Kent, relative to the Tithe Commutation Bill. Your attention is particularly called to it, and it is hoped you will give it that consideration which the importance of the subject demands.

It has excited much surprise that that portion of the members in the two Houses of Parliament having landed property, but no interest in tithes, should have suffered such a bill to pass; it having an obvious tendency to militate against their own interest, and to place them in a worse position than heretofore. To the clergy and titheowners, however, the bill will be of invaluable benefit; for instead of a precarious, it will secure to them a permanent income, estimated according to the highest rate of produce which possibly, under any circumstance, the soil of England is capable of yielding; and this income is secured to them, divested of all the difficulty, risk, inconvenience, and annoyance to which they have heretofore been subjected. The bill has been styled, "a great and healing measure," but it will require a microscopic eye to discover any benefit which can possibly accrue to the tithepayers. Well may those who will be benefited by it hail the bill with unmingled satisfaction, as it is beyond what they could have hoped for in the existing state of society.

The Bishop of Exeter (the only prelate who offered any opposition to the bill,) admits that "the measure is harmless to the clergy of the present generation;" but with a provident concern for those yet unborn, he objects to it—because the estimate of the value of the tithes being made according to the rate of produce for seven years ending at Christmas, 1835, will not insure to them a participation in the future increase of the produce of the land, which his Lordship assumes is to go on for ever augmenting. The assumption is, however, most fallacious; for a considerable quantity of land which had been brought into cultivation for the growth of corn, owing to the great demand and high prices during the war, is now, in consequence of the reduced price of grain, in progress of conversion to pasture; and a still greater quantity will, no doubt, be withdrawn from cultivation, whenever an alteration shall take place in the corn laws

—an event, probably, not very remote, as they are becoming, in the opinion of a great and powerful portion of the community, more and more intolerable.

Now is therefore the time for the landowners duly to consider, what upon their property will be the operation and effect of the Tithe Commutation Bill; and whether, while it secures to the clergy and titheowners a permanent income under an infinitely more advantageous arrangement than heretofore, it will not eventually be productive of a diminished one to them.

To the Honourable the Commons of the
United Kingdom of Great Britain and
Ireland, in Parliament assembled.

The Petition of the undersigned landowners, residing in the county of Kent,

Most respectfully sheweth—

That your Petitioners having been induced, from the discussion which occurred in the House of Commons upon the introduction of the Tithe-Commutation Bill, to expect, that as it was admitted the landlords in Ireland were entitled to a *bonus* for having their estates saddled with a rent-charge in lieu of tithes, the landowners in England and Wales would have been granted a similar allowance, though, perhaps, under existing circumstances, not to so great an amount; it is, therefore, with considerable disappointment your petitioners find, that that principle was abandoned, and the rent-charge fixed according to the value of the tithes for the last seven years—thus entirely relieving the tithe-owners from all future risk and vexation, and entailing upon the landowners a charge, which, probably, will hereafter in many cases absorb nearly all the rent.

That your petitioners beg to call your attention to the 79th clause of the act, as it will probably, in its operation, place many of them in a much worse position than heretofore; for should tenants under existing leases object to pay the rent-charge, the trouble, inconvenience, and annoyance of taking the tithes in kind will be transferred from the titheowners to the landlords. In cases of this kind, therefore, the perplexing situation of a landlord, residing far away from his property, must be obvious to every one; the consequence will be, that the landlords, particularly the small proprietors, without the means of collecting the tithes, will be placed in a most vexatious situation, not only with regard to the great, but, in a more embarrassing predicament, with respect to the collection of the small tithes:—the result, therefore, in many cases, would probably be productive of considerable loss to the landlords.

That, about twenty-five or thirty years ago, a great quantity of poor land—in consequence of the increased demand for corn during the war, and its then remunerating price—was cultivated for its production; and as the cultivation of that species of land has always been attended with considerable expense, latterly with little or no profit, and in many instances with a loss; and as it is very probable, from the alteration of the corn-laws, and other causes, producing a low price of grain, that much land of this description would cease to be cultivated, the continuance of a rent-charge for the commutation of tithes, according to the average produce of the last seven years, would, to the proprietors of land of this quality, be highly injurious. It must, therefore, appear obvious to your honourable House, that to fix the proprietor of the soil with a rent-charge for the commutation of tithes, under every circumstance that may hereafter occur, according to the quantity of

corn grown during the period prescribed by the act will not be a just basis for the calculation of a permanent titheable produce of the land.

That, to obviate these difficulties and to simplify the measure, your petitioners submit to your honourable House the propriety of enacting, That the land be valued in the several parishes of England and Wales, by two surveyors; one to be appointed by the titheowner, and the other by the landed proprietors; who shall be instructed to fix an amount of the value of the corn, &c., which they shall consider the land capable of producing, under the ordinary system of farming: and after making a deduction for the expences to which the titheowner would be subjected for collecting, preparing for sale, and marketing his tithes, then to award the sum to be annually paid for the commutation thereof. Your petitioners trust you will consider this a fair and equitable arrangement; for it will surely be an act of injustice permanently to fix the proprietor of the soil with a payment in lieu of tithes, calculated on the capital which may chance to have been employed on it during the last seven years, and that too, in many instances, by a person not under his control. And with respect to the act which passed in the last session of Parliament, your petitioners are confident, that when it becomes compulsory, particularly in cases where tithes have been taken in kind, much dissatisfaction will exist; and that, consequently, numerous petitions will be sent to Parliament, praying for its repeal, or a revision of some of its most important clauses; for although your petitioners approve of the principle of the bill, viz., that of abolishing the custom of taking tithes in kind, yet the detail of it is such, that in many instances, they are persuaded, it cannot be carried fairly and equitably into execution.

Your petitioners, therefore, request your honourable House will be pleased to revise the Act for the Commutation of Tithes, so that, before the law shall become compulsory, it may be enacted:—1st, That a bonus be given to the landowners, as a remuneration for the risk imposed on them. 2dly, That the occupiers under *existing* leases may, as heretofore, be alone responsible for the payment of the rent-charge. 3dly, That land ceasing to be in tillage may no longer be liable as *arable* land to the payment of tithes. And 4thly, That the value of the tithe shall be estimated only from the produce of the corn, &c., to be obtained by the ordinary mode of farming, and not from what may have been produced by the output of a large capital.

And your petitioners will ever pray.

COMBINATION OF THE FARM SERVANTS IN EAST LOTHIAN.—At a meeting of the hinds, farm-servants, and labourers held in the Town-hall Haddington, on Wednesday evening, the 25th ult., the following resolutions were agreed to, viz:—“10l sterling in money; a cow's keep, or 6l allowed instead: 1½ qrs. of barley; ½ ditto of pease; 6½ bolls of oatmeal, Dutch weight; 6 bolls of potatoes, 4 cwt. per boll; permission to keep a pig; five weeks meat in harvest; free house and garden: coals driven; no bondager; labourer's wages, 12s per week; farm servants, 14l per year; also, that no undue advantage should be taken of the hours of labour expected from the servants.” What may be the result of these resolutions, we know not; but it is undoubtedly a new position which that class of the community have assumed. In Berwickshire, meetings of a similar nature, and for the same objects, have been recently held among the farm-servants of that county.

POINTS IN CHEMISTRY APPLIED TO AGRICULTURE.—SOILS.

“Nunc, quo quamque modo possis cognoscere, dicam.”
VIRGIL'S GEORGICS, LIB. II.

“I'll teach thee now moulds different to discern.”

Of all the departments of Agricultural Chemistry, not one is superior in importance to that which embraces the nature and management of soils. Collateral knowledge is certainly not to be despised, but it is here that the business of the farmer peculiarly lies, and to this, therefore, his mind ought more particularly to be directed.

Soils serve two important ends—they give a firm support to plants, and serve as the medium in which their food is fitted for their use, and through which their spongioles, or digestive organs may ramify to obtain it. Every thing, then, may be considered a soil which possesses such characters, from the scabrous oxidated surface of the whin-dyke, affording nourishment for the closely-adhering lichen, to the deep and loamy mould supporting a forest. Soils originate from the destruction of rocks, a phenomenon constantly progressing, and owing to the action of surrounding agents. Chemical and mechanical means are continually at work, disintegrating the most stubborn inorganic masses, and causing them to crumble to dust. Lightning, showers of rain, streams of running water, tides, gravity, frost, even winds and the affinity of various elementary bodies for the constituents of the stone, all tend in a shorter or longer period to reduce the proudest pinnacle to a soil. “The granite of some parts of Finland,” says Mr. Strangways, “is so liable to decomposition, that a great boulder of it may often be seen with a hole cut in it large enough to admit a cart and horse; and the stone, though at a small distance it seems calculated to last for ages, is cut down and shaped away with the same ease, and much in the same manner as a hay rick.” Much assistance is rendered, in the breaking up of rocks, by the lower ranks of vegetables which take possession of the surface, and tend to destroy the coherence of the particles by the action of their roots, and the sapping influence of the water which they are sure to accumulate. Into the mode, however, in which these powers operate, it is not our intention to enter; a mere enumeration of the agents and the effects which they produce, being all on which we can at present be detained. Suffice it to say that no matter how the stony bodies are pulverised, they present themselves at last under a number of forms which, for the sake of convenience, are generally grouped, and named according to the predominance of a particular ingredient. They may, therefore, be primarily divided into clayey, sandy, gravelly, alluvial, and peaty.

Clayey soils are so named from clay or alumina being their principal constituent. They are characterized as being stiff, heavy, strong, or cohesive, these terms denoting the greater or less prevalence of their main ingredient. The distinctive features of clay—its easy solution and suspension in water, its becoming an impalpable powder on being slowly dried, and the peculiar plasticity which fits it for so many works of ornament and utility, are known to almost every one, and therefore need not at present be enlarged upon. Being, when pure, almost impervious to water, it has much influence on the fertility of the soil, and determines to a great extent the character of the vegetation, the latter being, when clay is in excess, either scanty, or wholly wanting.

Sandy and gravelly soils owe their name to the silicious or flinty particles of which they are principally made up, the fragments of stony matter being comparatively large in the latter, while in the former they are comminuted. They are in general the result of attrition, long continued by the agency of rapid streams, along whose channels they have been hurried from some distant source, and depend for their properties to a great extent on the nature of the rocks from which they have been torn. Though possessing some properties in common, they are in several respects essentially different. Sandy soils hold water in their interstices, only by cohesive attraction, retaining it for a longer or shorter period in proportion to the tenacity of their particles, and parting with it readily by evaporation, still more quickly by filtration. Owing to the last circumstance they are quite unfitted of themselves to sustain plants, unless in situations where a proximity to water ensures a constant percolation of moisture. In moderate quantities sand is indispensable for soils, dividing them minutely, and allowing by its mechanical effects, the free access of air and water to the fibrils of the plants. According to the quantity of this ingredient, soils are spoken of as being loose, light, porous, or friable. Gravelly soils are in a manner, a distinct class, being in general more easily rendered productive than sandy soils; though this, in some instances, is a difficult task, owing to their loose and porous texture preventing the accumulation of such ingredients as can be turned to account on the application of manure. When, however, their porosity has been properly corrected, they always yield a profitable return, being highly productive in corn and pasture, and bearing crops which ripen early.

Alluvial soils are formed by the deposition of earthy matters, which have been suspended in the water of tides and rivers. They consist, therefore, of a variety of ingredients, though their bulk is composed chiefly of what has already been described, and are therefore, with few exceptions, naturally fertile or capable of being rendered so at a small expense. Occasionally, as in the instance of the Nilotic mud, they are the regular dispensers of fertility. They are the best of all natural soils, their component parts having been not only minutely divided, and intimately blended together, but also freely exposed, during their transits from place to place, to the ameliorating action of air and water. From these results, and the mode of their production, useful lessons cannot but be drawn, and additional incentives given to the farmer to make him attend closely to that frequent stirring, shifting, and pulverization of the ground, so conducive to its improvement and his own permanent advantage.

Peaty soils are formed by successive and often considerable layers of vegetable matter, such as branches, twigs, leaves, and roots of trees, together with herbaceous plants of every description, which, from long exposure to humidity at particular temperatures, have undergone alterations not as yet thoroughly understood. In general peat accumulates but slowly, requiring centuries for the attainment even of moderate accessions; but in wet and hilly localities, which are congenial to the growth of mosses, the process goes on with considerable rapidity. Crop after crop of the *Sphagnum*, the most common moss in this country, springs, and dies, and adds, in no long time, considerably to the thickness of the soil. Few specimens of peat, however, are found free from mixture with what may be termed foreign ingredients, and to these from their known hostility to vegetation may be ascribed the difficulty so frequently experienced of bringing mosses under profitable cultiva-

tion. A yellowish, brown, or blackish peat, found in moorish grounds in Scotland, Holland, and Germany, yields, according to the analysis of Kirwan, clay mixed with calcareous matter, pyrites, common salt, and an acid matter of a very unkindly nature, most of them no doubt owing to the percolation of river water through the stratum during, and subsequent to its deposition. Till of late years, peat soils were the most irreclaimable of all, but recent investigation has shown how easily land of this kind may be improved with benefit to the undertaker, especially where proprietors in common of extensive tracts, go to work under a combined plan of operation. Draining, paring, burning, and top-dressing with calcareous matter, so as to destroy the coarse heathy herbage on the surface, and neutralize or alter for the better the combination of ferruginous and acid matters already noticed; or (where the plan of the ground and its proximity to water afford encouragement) to float away the mossy surface to the neighbouring sea, in this way at once uncovering a firm carse soil ready for immediate cultivation, will be found most effective.

In addition to the bodies already mentioned, calcareous matter, as lime, chalk, or marl, must enter into the composition of every soil having pretensions to fertility, for though it may, in some cases, be dispensed with, it is found impossible to bring most crops to perfection without it. With its history and properties, however, we need not now proceed, as a better niche will be afforded to it in our "Points" when treating, as we propose to do, in our next, on the proximate analysis of soils.

FRANK SYLVAN.

MODE OF PREVENTING BEER FROM BECOMING ACID. — A patent has been taken out in America, for preserving beer from becoming acid in hot weather, or between the temperatures of 74 deg. and 94 deg. To every 174 gallons of liquor, the patentee, Mr. Storewell, directs, the use of one pound of raisins, in the following manner:—"Put the raisins into a linen or cotton bag, and then put the bag containing the raisins into the liquor before fermentation; the liquor may then be let down at 65 deg. or as high as 70 deg. The bag containing the raisins must remain in the vat until the process of fermentation has so far advanced as to produce a white appearance or scum all over the surface of the liquor, which will probably take place in about twenty-four hours. The bag containing the raisins must then be taken out, and the liquor left until fermentation ceases. The degree of heat in the place where the vat is situated, should not exceed 66 deg. nor less than 60 deg." To prevent distillers' wash from becoming acid, two pounds of raisins should be put into 150 gallons of the wash, the raisins being chopped and put in without a bag, and 106 of hops should be put into wash for every eight bushels of malt at the time of washing, and three-quarters of a pound of hops for every bushel of malt brewed, to be boiled in the liquor in the copper.—*Journal of the Franklin Institute.*

CURIOUS TENURE. — There is an estate in Chingford parish holden of the rector, and called Scott's Mayhews, or Brindwoods, respecting the tenure of which Mr. Morant says, "the owner on every alienation, with his wife, man-servant, or maid-servant, each single on a horse, come to the parsonage, where the owner does him homage, and pays his relief. He blows three blasts with his horn; carries a hawk on his fist; and his servant has a greyhound in a slip, both for the use of the rector. He receives a chicken for a hawk, a peck of oats for a horse, and a loaf of bread for his greyhound. They all dine; after which the master blows three blasts with his horn, and they all depart."

KIRKALDY AGRICULTURAL ASSOCIATION.

The Spring Meeting of this Society was held on Friday, February 17. The show of cattle, which took place on the occasion, in the opinion of the Judges, Mr. Dingwall, Ramornie; Mr. Wilson, Foodie; and Mr. Crawford, Balbegie, was somewhat inferior to some similar exhibitions of this description which have been lately made in the county. This, however, is to be accounted for not from any falling off of zeal or want of skill on the part of the members of the society in the cultivation of this important department of husbandry, but from the extremely unfavourable nature of the season in regard to the turnip crop, which, of course, supplies the main material for the manufacture of the *prime fat*. In other respects the show maintained the high reputation of the society as the leading agricultural association of Fife. Several specimens of barley and oats were generally admired. After the out-of-door business of the association had been gone through, upwards of eighty gentlemen sat down in the Town Hall to a sumptuous entertainment, prepared by Mr. Bendelow of the Commercial Inn for the occasion. The Preses, Lord Rosslyn, was in the chair, supported on the right by Sir John Oswald of Dunkier, and Mr. Stocks of Abden, and on the left by Provost Anderson of Kirkaldy, and the Rev. Mr. Sorley. Mr. Thomas Stocks and Mr. George Beveridge, merchants, occupied the croupier's chair.

Lord ROSSLYN, in proposing the toast of the evening, said, that it would be useless to occupy their time by descanting on the manifold advantages which such associations possessed—that numerous and highly respectable meetings was the best practical proof of the high estimation in which societies of this kind were held by the public, and of the favourable opinions, in particular, of those present as to the benefits which they were calculated to confer upon the profession of agriculture. But he could not allow the present occasion to pass over without congratulating them upon the improved state of their present prospects as agriculturists. He did not know that these had been more promising for a long series of years, and he must say that he attributed this happy change in a great measure to the activity, industry, skill, and enterprise, which now distinguished their body, and to the greater amount of capital which had been embarked in their peculiar pursuit. If they had borne the pressure of adverse times, not, perhaps, altogether without murmuring, but still with fortitude, he trusted that it would now be their happy lot to reap the fruits of their labours—the harvest of those seeds perseveringly sown amidst privations and endurance. (*Cheers.*) They were all aware that a committee had been appointed in the course of last session of Parliament for investigating whether any legislative measures of relief could be applied to the case of the agriculturists, and that that committee dissolved without coming to any specific conclusion on the subject, thus affording the most unobjectionable proof that men with the best means of judging before them, could devise no legislative remedy whatever, nor could any remedy now be fairly expected from the legislature. Gentlemen, the remedy is entirely in your own hands. It is to your own exertions to which in future you must look. The commercial and agricultural prosperity of the country have both happily greatly improved, and with the increase of profits and of wages there has been a corresponding increase in the consumption of agricultural produce, and this in the natural course of things has afforded you better prices. (*Cheers.*) All, therefore, which the agriculturists have now to ask or to expect from the legislature is that there shall be no unwise tampering with the present system—that the present laws, be they bad or good, shall be permitted to remain as they are. (*Hear, hear.*) I say, gentlemen, that the capital of agriculturists ought not to be thrown away and wasted by any undue tampering with the present system. All that we ask for is that we shall be permitted to lay out our capitals upon a sure and lasting foundation, and be enabled to look forward without misgiving to more abundant harvests for our reward. (*Cheers.*) You have seen small wages and small profits to the commercialist con-

joined with a corresponding state of hardship to the agriculturist; as the prosperity of the one class has increased, however, so has the other, and in truth these great interests are always found to be inseparably connected. (*Cheers.*) I need not detain you longer—no gentleman can traverse the country without finding its face everywhere greatly improved. I would trust, therefore, that the days of agricultural distress are now gone by, never more to return; and I feel assured that so long as you continue your laudable exertions, and so long as the laws affecting your interests remain unaltered with, your prosperity will advance. He gave “The Kirkaldy Agricultural Society, and success to it.” (*Received with great cheering.*)

Sir JOHN OSWALD called upon them to dedicate a bumper to the health of their noble chairman. (*Great cheerings.*) As a member of the Association, and addressing chiefly members, he would say that they owed that nobleman a debt of the deepest gratitude. This was the fifth meeting of the society, and at three of these his lordship has most happily and judiciously presided, and upon all other occasions had ever evinced the most praiseworthy anxiety to promote the interests of the agricultural profession. A great writer had said that there was no greater benefactor to his country than he who taught the art of growing two blades of grass where one only was formerly produced, and this sentiment was really at the root of all agricultural as well as commercial prosperity. It was by abundant crops that they could afford to sell food cheaply, and it was through cheap food that manufactures prospered. He required not to say how much Lord Rosslyn had done in this way—he had taken a large farm into his own hands—an experimental farm he might call it—and had spared no pains in turning theoretical knowledge to practical account. This was the proper method of procedure, in order to do a real service to agriculture. It was not by throwing away money profusely without discrimination, that good was to be effected. His friend Lord Rosslyn had himself as it were put his hand to the plough, and had not turned back. He was not only an enthusiastic but a laborious and persevering agriculturist, and he need not tell them how much he was doing in making his farm a pattern to the neighbourhood. (*Cheers.*) It was true his lordship now and then set them examples, which more frugal agriculturists perhaps might not deem it altogether safe to follow, such as elevating his bullocks to the condition of coach travellers. (*Great laughter.*) Still even this was a laudable ambition, as it was certainly pleasing to observe what Fife could be made to produce, and under the excellent management of his lordship, the despised Fife breed had fairly distanced all competitors. (*Cheers.*) Sir John next adverted to the domestic affliction which their chairman had lately sustained, and after passing a glowing eulogium upon the character of the late Earl of Rosslyn, concluded by proposing his toast, which was drunk with tremendous applause.

Lord ROSSLYN briefly returned thanks.

ROBERT STOCKS, Esq., of Abden, had much pleasure in proposing the Vice Presidents and Members of the Committee of the Society. General Balfour, he was sorry to say, was absent through indisposition; and Mr. Fergus had high duties to perform in parliament, which he trusted he would well discharge. (*Drunk with all the honours.*)

MR. JOHN HAIG returned thanks. He assured them that the labours of their committee were comparatively light in consequence of the activity and assiduity of their excellent and worthy Secretary, whose health in return he would beg leave to propose to them. (*Received with great cheering.*)

MR. HUTCHISON returned thanks for the very flattering manner in which his name had been received. He assured them that at all times he had felt their approbation as an ample reward for the labours of office. There was a sentiment in regard of which, although a few might differ with him, he felt assured that the great body of them would entirely and cordially agree to. It was this, that such meetings as the present, while of course their convivial nature was not to be overlooked, should at the same time be turned as much as possible

to useful account. (*Cheering.*) One gentleman, a member of that society, who he hoped was present—he referred to Mr. Lewis, of Boglillie,—had lately favoured the world with some excellent suggestions on the subject of agricultural improvement, shewing them in what manner and by what organization an intimate knowledge of the art of farming as it stood, could not only be most successfully acquired and diffused, but that knowledge with the smallest amount of individual sacrifice rendered as rapidly as possible progressive. The subject of experimental farming was a most important one. It was equally important to know of the failures as of the successes attending it. He merely, however, broached the subject for discussion, and he trusted all who like their excellent chairman, Lord Rosslyn, had manfully encountered its difficulties, would not withhold from them whatever information their particular experiences in this department had enabled them to obtain. In a dangerous channel it was of vast consequence to know the rocks to be avoided. He had heard a remark made by some very intelligent farmers in whose judgment he reposed much confidence, and, when he mentioned the names of Mr. Fergus and Mr. Watt, he knew he gave authority to his statement—that all that was required for the tillage of certain soils, once properly civilized by means of draining, cleaning, &c., was simply one good winter furrow. (*Hear, hear.*) Any farther use of the plough for the succeeding crop might be safely and beneficially dispensed with, and the process completed by means of the grubber. He knew that this was not applicable to all soils, but it was obviously most important that its limits should be ascertained. There was another matter which he would suggest for their consideration, and that was the establishment in Kirkcaldy of a market for shearers. He was one of those who believed with my Lord Rosslyn, that the agricultural class must now rely entirely on their own exertions, and he had no doubt that by taking advantage of all the circumstances in their power, they would be enabled with profit to themselves, to supply the country abundantly with cheap food. For this purpose, however, they must have all their processes as far as possible improved, and it was certainly of great consequence that their crops, after having been laboriously matured, should be harvested as cheaply, and with as little risk from the weather as possible. He regarded the usual practice of employing a set band of shearers as capable of being superseded in numerous instances with the greatest advantage. It was a great hardship to the farmer to keep, as by the present practice he was generally compelled to do, a number of unemployed hands about him, while by means of a hiring market for shearers continuous employment could be procured to a great extent, either in or out of doors, and the farmer by being enabled to command on the instant as many hands as he required, would thus have his crops brought under the sickle in a much more perfect condition. These subjects he merely threw out, however, in the way of hints, and again begged to return them his sincere thanks.

Lord ROSSLYN approved much of the suggestion of Mr. Hutchison in regard to the establishment of a hiring market for shearers in Kirkcaldy. With regard to one winter furrow, however, he could not say a great deal. He had got a machine from the south which run on wheels, and was calculated to cut up weeds which had not a very deep root. However, he had not yet been able advantageously to use it. He was afraid he had too many stones on his farm; and notwithstanding all his efforts to bury them, the more he put down the more seemed to come up. (*Laughter.*) At all events, the wheeled machine of the south—and it was wheeled in front—generally found the blow of a good Scotch stone somewhat too much for it. Perhaps if the wheels were left at home it might get on better. With him, somehow or other, there was a prejudice against front wheels; but he would be happy to give any other gentleman a trial of the machine. (*Great laughter.*) He was sorry that Mr. Dingwall and the other judges had that day found so little to attract their attention. However much he (Lord Rosslyn) might have done in the way of making two blades of grass grow, on which sub-

ject his friend Sir John Oswald had so eloquently complimented him (*laughter*), he must confess that with all his zeal he could not manage to make his turns look respectable this season; and without turnips, the cattle they knew were but too apt to cut rather a sorry figure. (*Renewed laughter.*) He proposed to drink to the health of the Judges.

Mr. WILSON, of Foodie, as the junior judge, returned thanks. He regretted that the animals in some of the classes did not certainly show any very great superiority. The dams appeared to be of the best description; but the same remark he thought did not hold equally with the other gender; and he was inclined to think that the members of the Kirkcaldy Association were committing an error in this respect.

The SECRETARY said, he had now a pleasant duty to perform in reading a list of the premiums which the judges had that day awarded. They were as follows:—

For the best bull of the Fife breed, to serve in the district, 3*l.*—Earl of Rothes.

For the second best bull, ditto ditto, 1*l.* 10*s.*—R. Hutchison.

For the best bull of the shorn horn, or Teeswater breed, ditto, 2*l.*—Thomas Stocks.

For the best year old bull, Fife breed, 1*l.*—Earl of Rothes.

For the best breeding cow, of the Fife breed, in milk or in calf at the time, 2*l.*—S. Anderson.

For the second best cow, Fife breed, ditto, ditto, 1*l.*—R. Hutchison.

For the best pair of two-year-old Queys, 1*l.*—H. Fergus.

For the best pair of three-year-old Queys, Fife breed, in milk or in calf, 1*l.*—Mr. Kilgour.

For the best brood mare, for agricultural purposes, in foal, or at her foot, 2*l.*—Mr. Kilgour.

For the best ten quarters of Chevalier barley for seed, 1*l.*—W. Veitch.

For the best ten quarters of Scotch barley, ditto, 1*l.*—W. Veitch.

For the best ten quarters of potato oats, ditto, 1*l.*—R. Carstairs.

For the best ten quarters of evergreen perennial rye grass seed, 1*l.*—James Birrell.

For the best kept dozen Rutabaga turnip roots, stored in November, accompanied with an account of the method of keeping, 10*s.*—Earl of Rothes.

For the best kept dozen yellow turnip roots, ditto, ditto, 10*s.*—Earl of Rothes.

The Rutabaga roots had been kept in a dry open shade, those of the yellow turnip had been laid closely together in a deep drawn dry furrow, and covered up by a turn of the plough. In this way they were found to be preserved in a much better state than others which had been put together in small heaps. The following is a list of the sweepstakes of half a sovereign each, which were also decided:—

For the best cow of the Fife breed, in milk or in calf—Samuel Anderson.

For the best cow of any breed, in milk or in calf—John Stocks.

For the best pair of four-year-old cattle, Fife breed—Andrew Watt.

For the best six year-old cattle of any breed—Robert Hutchison.

For the best six two-year old cattle of any breed—James Prentice.

For the best two-year-old Teeswater bull—John Boswall.

For the best colt or filly for agricultural purposes, foaled in 1836—George Beveridge.

For the best colt or gelding for agricultural purposes, foaled in 1835—George Beveridge.

For the best four colts or fillies, foaled in 1835—Walter Veitch.

For the best gelding or filly for road or field, foaled in 1834—William Hutchison.

For the best gelding or filly for road or field, foaled in 1836—James Kinninmonth.

For the best bacon ham cooked for table—John Reid.

The healths of the successful competitors were then given, to which Mr. Veitch replied.

The CHAIRMAN said, that there was a custom among associations in the south, which he thought it might not be amiss to copy, if not on this, perhaps on some future occasion. It consisted in making, after dinner, sales of superior descriptions of seed corn. It stood to reason, that when they were in the spirit good prices would be obtained. (*Laughter.*) They had two objects in view—glory and profit; but he held profit to be the main chance. (*Renewed laughter.*)

The SECRETARY read a letter from Mr. Ainslie, apologizing for his absence, and requesting their acceptance of 10*l* 10*s*, to be awarded in two 5*l* 5*s* prizes for the best feats performed by tenants in the way of thorough draining and laying down grass. In the meantime, the Committee had resolved to communicate further with Mr. Ainslie on the conditions on which the Ainslie prizes should be awarded; and it was resolved that these, as early as possible should be made public.

Mr. Ainslie's health was drunk, and a vote of thanks to him for his generous donation proposed and carried with great acclamation.

Mr. JOHN HAIG proposed the health of General Sir John Oswald, and particularly alluded to the encomium paid by Sir John to the character of the late Earl of Rosslyn.

SIR JOHN OSWALD assured them that he always felt peculiarly gratified when he could say or do any thing deserving of their approbation, and he would be most happy if, in concluding his career, he should be enabled to carry with him the esteem and respect of those among whom he had lived. That esteem and respect he valued exceedingly; and he always held it to be the highest reward that an individual could receive next to the approbation of his own conscience. There was no species of fame which, in his opinion, rested on a better or surer foundation. He could assure them that so long as Providence gave him health and strength, his services would always be at their disposal. He would always take an active part in the performance of those duties which he conceived he owed to society. He had been entrusted on the present occasion with a toast; and he now called upon them to fill a bumper to the manufacturing and commercial interests of the country. Situated as he was, he would be blind indeed if he did not perceive the vast importance of these interests, which were so much amalgamated with his own. He had always considered those not wise, nor honest men, who endeavoured to draw a line of distinction between them. Situated, he said, as he was, in the immediate vicinity of an important and thriving commercial community, where his ancestors had long lived, and participated equally with himself in those advantages which an intelligent and enterprising commercial people had created, it would be most ungrateful in him did he not wish permanence to their commercial and manufacturing interests. His ardent wish was that these interests should be permanent, and that the shuttle, the plough, and the sail, may long continue to prosper in this his native land. (*Cheering.*)

ROBERT STOCKS, Esq., of Abden, had much pleasure in returning thanks on behalf of the commercial interests of Kirkaldy. He would be very unworthy indeed did he not feel the honour and value of the sentiments which had been expressed, coming from a class on whom the manufacturers so much depended for a market for their goods. Far be it from him to say, however, that the foreign trade of the country was not a most important matter to be attended to. He meant to say that it was of the greatest consequence to the general prosperity of the country; and that a well employed manufacturing and commercial people would ever be found the sure forerunners of agricultural prosperity. He witnessed with much pleasure the improvements which were making in agriculture, and the spirit now abroad on the subject. Mr. Ainslie had set a noble example, which it would be for the interest of every landed proprietor individually to follow up.

Mr. BALLINGALL of Treaton proposed a toast "Mr. Coke of Norfolk and the Agriculturists of England." The gentleman whose name was coupled in his toast with the English agriculturists might well be termed the most magnificent of landlords. Through his own im-

mediate exertions, and the encouragement afforded by him to his tenantry, an immense tract of country, formerly waste, had been brought under profitable cultivation. So barren, indeed, was the gravelly soil of Norfolk formerly deemed to be, that, in Charles the Second's time, it was remarked that the entire county was fit for nothing, unless it were possible to cut the whole of it up into roads for the supply of Great Britain. Nothing daunted, however, by this aspect of sterility Mr. Coke had set to work, and by the introduction of drill husbandry and other improvements, had so changed it that its agriculture had become a pattern for general imitation, and the North Devons a practical example to the whole country. He hoped to live to see the day when their English agricultural brethren would be freed like themselves from the bondage of tithes. If this important question were once amicably settled, there could be little doubt but that it would add greatly to the prosperity of their southern brethren, and tend materially to make the country, in its supply of agricultural produce, keep pace with its rapidly advancing population. (*Drank with all the honours.*)

The CHAIRMAN proposed the Strangers.

Mr. SYME replied. He was exceedingly delighted, he said, to find that there was a feeling of gradual coming-down, as it were, now beginning to display itself among the respectable party of commercialists towards the landed interest. He held that as man was not created for woman, but woman for man—so the mercantile interest was made for the advantage of the agricultural. (Mr. Syme's philosophy of course excited pretty general laughter.)

Mr. HURMESON in a neat speech proposed the election of Colonel Wemyss as an honorary member of the association, which motion being duly seconded by Mr. Liddell, was carried with great acclaim.

Mr. THOMAS STOCKS proposed "The Highland Society of Scotland," and Mr. J. Reid, "The Sister Societies of the County." That latter gentleman observed that he spoke the sentiments of the judges, when he said that a worse shew of cattle had not for a long period been exhibited in the county, than that they had that day witnessed. It had been generally acknowledged that some excellent specimens of grain had been brought forward, but these they owed perhaps as much to the superiority of the soil in the neighbourhood, as to their own skill. He conjured them, therefore, to exert themselves if they desired to escape disgrace. (*Cheers and laughter.*)

In the course of the evening a number of excellent songs were sung, and a due mixture of the jocose with the grave was pretty well sustained. Lord Rosslyn's hint of after dinner marketing was acted upon, and several sales of Barley and Oats effected; the former bringing 40*s*, the latter 36*s* per quarter.

HOXNE UNION.—At a specially convened meeting of the board of guardians of the Hoxne Union on Monday, the 13th instant, petitions to Parliament in favour of the new poor law, and praying that the Legislature will assent to no alterations, either in principle or detail, which may tend in the smallest degree to impair the efficiency of a measure fraught with such good and important results, not only to the community at large, but especially to the poor themselves, were carried by a very large majority. The petitions were signed by 30 guardians out of the 36.

The shipment at Banff of cattle for the London market, has commenced for the season, and the *Glennalta* sailed on the 5th current, with a cargo of very superior animals, among which were two, for which the shipper paid 28*l* each, and ten others which averaged 25*l* each. The whole were a fine specimen of Banffshire cattle, such as are not to be seen every day, and we hope they will come to a good market. The *Medora* has taken another cargo of superior cattle for the same destination.

REPLY TO MR. MILBURN.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—I must beg leave to trespass again upon your valuable columns. Till Mr. Milburn advances something more forcible than he has done, I shall feel it my duty to defend what I have advanced. He seems admirably attached to satire and Italics. I shall feel obliged by discussing the subject without any ill feeling towards either him or any other person who may think well to engage as long as prudence shall dictate to me the propriety of so doing. Mr. Milburn says, that I have said, that the incongeniality of the weather destroyed the plants: I said that the incongeniality of the weather brought on a disease in the plants, and that that was amongst some of the first causes of the destruction of the crop. The plants would become diseased from causes which I have before stated, and those which were so severely injured from those causes as not to be able to resuscitate, would then of course decompose; still they might not all die, they would decompose in proportion as their vitality was affected. Again, he asks, did decomposition take place before the attack of the fly or afterwards? I answer, before the attack of the fly, though this should be taken in a restricted sense; those whose vitality were so severely affected as not to have the power to resuscitate, those we may say did decompose, otherwise they were only diseased previous to their being attacked, which some of my former letters will prove; and if he thinks that I am unacquainted with their early stage of existence, because I said they were of sufficient magnitude to be discovered without having recourse to a microscope, he is perfectly mistaken; they are to be discovered in their earliest stage of existence by the naked eye, though, undoubtedly, the aid of a microscope would expose them more fully to view, and thereby give any person a better idea of their form and situation. But microscopic aid will neither plant nor remove the cause, it is the cause which wants finding out, and then we may expect some part of the affected to die away. Again, Mr. Milburn says, the fly when at its largest size is often passed over by persons when their attention is not immediately directed to them; to this I say, and so are many of our mountains. When they visited towns, I almost imagine they would not have passed unobserved, in fact I know that if Mr. Milburn had been in the neighbourhood of Mansfield last summer, he would have both seen and felt, and would have had his eyes filled with them too. But if, as I have before observed, they do inspect the plants, they may be observed without having recourse to microscopic aid. Again Mr. Milburn states, that they are both oviparous and viviparous. He would have obliged the public had he been a little more elaborate upon this part of his subject.

Again, he wishes to know, why my present opinions and those of September the twenty-first, are so opposite? To this I answer, that my opinions at that period were decidedly the same as they are at the present; but I thought that in stating the loss or havoc that was taking place in the county, the most effective method of describing that destruction was to use the phrase or phrases or opinions that was generally entertained; though what I then said is not at all paradoxical to what I now advance. I know that at that period I said nothing about disease, decomposition, causes and effects; I merely stated that the crop was carried off by the fly. It was not my design to expatiate upon any particular subject, but merely to state that such a thing had taken place. Again, in one of Mr. Milburn's former replies, dated 21st of November, he quotes the opinions of Bonnet

and Reaumer, whose opinions (they being natural historians) he said was conclusive, and their opinion he said was this, that the aplices feed on the healthy juices only; but now, he says, that the plants were diseased before they were attacked, he has no doubt. Now, Mr. Editor, is not this a decided paradoxical assertion to what has been before advanced; and I believe neither myself or the public is mistaken in what was then advanced, at least I was not. Facts are stubborn things, and there it is. Again, he says, that the plants became sickly and diseased from the ravages of the fly, and that the reason why they did not leave those plants and attack others, was simply because of their still habits; but, he does not tell us why they select one plant from another, nor why they selected one part of the field in preference to another, which he ought to have done. All he says, is this, that where the plants were sheltered, there they maintained their health and vitality; thus decidedly confirming my opinion. But he ought to have told us why the parent insect passed over the sheltered situations, and attacked the exposed ones (but that is too evident to need an extensive definition). We find further that he has included the weather amongst some of the causes affecting the growth of the plant, or rather the loss of the plant, which is decidedly inimical to what he has before asserted, where he attempts to make it appear that the weather has nothing to do with the havoc which has taken place, but to rest solely with the fly. Again, Mr. Milburn says, or endeavours to substantiate his opinion in regard to his geraniums, and to substantiate that opinion, he says, that the plant could not become diseased from the severity or incongeniality of the night air, for it occurred in the month of July. Did Mr. Milburn never know the month of July to produce a most severe frosty night? And I suppose that the other geraniums had not been exposed to an external atmosphere. But why mention the weather at all, for if Mr. Milburn's opinion be correct, the flies will attack those plants that are the most sheltered the first, for we are sure that those plants are the healthiest, so that those geraniums which were kept in a warmer atmosphere would have been attacked the first, they containing more juices than the unhealthy ones; but it appears it was not the case, thus proving his opinion erroneous. And according to Mr. Milburn's account, the weather has nothing to do with the loss of the crop; if I were to bring forward ten thousand arguments, I could not bring one so powerful as these geraniums of his.

They were all healthy plants, unaffected by the fly; but this unfortunate one that remained out during the night was afterwards affected, while the others remained healthy; they being secure from the chilling blast; thus showing that the chief cause is in the weather. Though superior management may enable the plant to contend with the severities of the weather I ask, what argument in the world could be adduced, so powerful as this, of his geraniums? If I, or any other person in the world, were to write a thousand volumes upon the subject, we could not elucidate the subject more than what these geraniums have done. In regard to the plant casting its leaves, that has nothing to do with the question. The subject in dispute is, what is the first cause, which the geraniums will prove. He states that it is now healthy, so it may be; hundreds of plants were affected and still survived. They resuscitated in proportion as their growth was affected. Again, Mr. Milburn supposes that I am ignorant in regard to the fly, because I do not call it aphid; to this I answer, that I wish to descend into the vale of common sense, that I may be the easier understood.

Why use Latin terms, when not one thousandth part of the world are Latinists?

The church of Rome has preached Latin enough. If we wish the public to be benefited by what we advance, we must speak in a language they can understand. Again, in regard to the bean and other crops being attacked by a similar species. If Mr. Milburn knew more of the first origin of the fly and less of Latin, he would throw more light upon the agricultural world than he now does. In conclusion he states, what strong facts he has produced, which really I do not perceive, except his geraniums, which I would advise him to study more, for if any thing in the world can convince him, they will; except he be blinded by prejudice. But as to all the rest I still say that they are nullities; he, like numerous others in the world, looking more to effects than causes. He clings much to the opinion of natural historians, which I would not be said to decidedly oppose, still it is the duty of every man to have an opinion of his own, or rather a mind guided by theory and practice, if he intend to steer clear of plagiarism, and let the public be benefited by what he advances. And I shall feel obliged to Mr. Milburn if he can convince me that I am wrong, and let him do it without so much sarcasm. I wish fully to discuss the question and not to fight, for let the matter end how it will, some will be benefited by it. I should have replied sooner, but that terrible disease the influenza has had hold of me, together with press of business, which has made it unavoidable. I beg to remain with my best wishes to yourself and Mr. Milburn, and may he and I in friendship be as faithful as the magnet is to the pole

South Normanton, Alfreton,
Derbyshire, Feb. 23rd, 1837.

Yours,
S. GILL.

[We are assured by the Lady who forwarded us the following verses, that they were written in her Album, at her own request, by Mr. Bayley, the popular lyricist, the subject being of her own choosing.]

BALLAD OF REAL LIFE.

They laid her, beautiful and young,
Upon a bed of pain;
Mad accents rushed upon the tongue,
And fever to the brain;
The light forsook the swimming eyes,
The tresses fell away;
Or where they stayed, gave up their gold
For silver shades of gray.
'Oh! she is changed, sweet sister dear,
'And he will alter too;
'The summer-heaven, he called her eye,
'Is mourning for its blue;
'To praise the tresses that he loved,
'How vainly he must speak;
'They're gone! the crown upon her brow,
'The curtain to her cheek.
'Oh, go! and fetch her, sister dear,
'An ointment, rich and rare;
'Bring back the sunny tress of gold,
'Bring back the flowing hair;
'Once more among its folds of silk,
'Let happy zephyrs play;
'Her eyes will then resume their blue,
'Her voice again be gay.'
'Tis brought;—and, lo! its ruby tints
The milky pillows scil;
They dew her head with liquid drops
Of prized MACASSAR* Oil.
Oh! round her brow fresh tresses flow,
In all their golden pride;
And he who glories as they grow,
Is waiting for his Bride.

* ROWLAND'S.

TURNPIKE ROADS.

TO THE EDITOR OF THE FARMER'S MAGAZINE.

Sir,—I was glad to see, in your valuable paper of 20th inst., an extract from the Evidence given on the Report of the Select Committee of the House of Commons on Turnpike Tolls and Trusts—(Session 1836.) The re-appointment of that Committee, under their zealous and able Chairman, W. A. Mackinnon, Esq., gives good ground to hope for a favorable issue of their labours, whereby the whole System of Management may be remodelled, and produce a relief to all classes, in particular the Agriculturist.

Among the witnesses examined, no one, for practical knowledge of the working of this machinery, was more deserving of attention than the individual you selected (His Grace the Duke of Richmond) whose Evidence, as well as former labours when Chairman of the Committee of Lords in 1833, most clearly pointed out the primary object to be, “the consideration of means for arresting the existing overwhelming Debt,” which sooner or later must be wrestled with, to prevent still further accumulating burthens.

Having been practically conversant with the duties of a Commissioner on a pretty extended Trust, I will offer to your readers a few leading points for their consideration, as in a statistical view of the whole of the subject, it would be plainly shown that the expenditure has been *uncontrolled*, and consequently subjected to very many unnecessary outlays, which by consolidating into districts the numerous Trusts, (1100 in England and Wales) and placing a controlling power either in County Boards, or a Central one in the Metropolis, can alone afford any prospect of relief by effective management.

The Report of the Commissioners very naturally expresses doubts as to the exact mode to be recommended, on the primary object which forms the burden of their inquiry, that is—a *Substitute for Tolls*, the expediency being admitted, as the disease is at present visible to all, and equally pestilential to the whole of the community; but when once the core of the disorder is in view, and capable of being eradicated, the subsequent care to restore the whole to a healthy state by administering the palliatives to effect such a restoration. it may, by skillful management and restorative prescriptions, be effectually attained; so, in a metaphorical sense, all State evils may be reformed by applying the knife to the very root of the sore.

The origin of Turnpike Roads, their constitution, powers, and management, are too well known to need a repetition. There is, however, one point to which particular attention should be paid; it is this,—That each Trust is a *private fund*, placed by the Legislature under Commissioners, who are selected by the original promoters of the Road, for which the *leasehold* is granted for the term of years, (21 to 33) which is adjudged by the Constitutional Government of the Kingdom to be sufficient in duration for the liquidation of the debt incurred by the outlay, in purchase of land, formation of road, and its yearly maintenance and support;—all such provisions being made by a Sinking Fund, assisted by an increased rate of interest; and, in case of failure, the Road reverts to the public, under the care of the parish wherein it is situated.

This view is ably exposed by Mr. Bateman, in his Digest of Turnpike Acts, by the following extracts;—

EXTRACT FROM BATEMAN'S COMPILATION OF THE TURNPIKE ACTS.

Highways are converted into turnpike roads through the application of a new principle, and that one of the

points of this innovation upon the old law consists in the suspension "of the liability of the parish to the repairs of the road except by the performance of their statute labour." This latter obligation is now abolished (from March, 1835) by the provision of a composition in money, not to exceed 2s 6d in the pound, unless four-fifths of the rate-payers consent to a further assessment. There is, however, no absolute legal suspension of this liability, which by the 7 & 8 Geo. 4, c. 34, sec. 17, appears expressly to continue the liability to repairs, upon the parish or party previously liable, leaving the parish to seek their remedy upon the trustees of the turnpike roads or others, and making it incumbent on the parish to see the roads are kept in repair. It being clearly shewn that by the common law, the *freehold* of the roads (subject to the King's highway) is held to be vested in the owners of the soil, who may convey water under it, and maintain actions of trespass, &c. The chief distinction between parish highways and turnpike roads is the imposition of a toll upon the latter, to be applied to its maintenance and repairs; without this there would be no necessity for keeping up the separate establishments created by the turnpike laws, and all highways in the kingdom might be made subject to the same regulations, the amount of tolls payable being regulated by the local acts, but is subject to the restrictions and modifications of the general laws, comprised in 17 existing acts, containing 332 clauses, enacted from the year 1822, when the anticipated panacea was brought forward by 3 Geo. IV., c. 326, 1822.

Let this tenure be well considered before other legislative acts be enacted, and the difficulties may be met, providing the means for maintaining the roads, or their being placed under responsible agency, and not as at present, uncontrolled. It is not my view to disturb the present system of the executive power vested in local trustees, but to improve it by an extended selection, embracing those gentlemen who are more intimately connected with the roads by locality of residence and interests in their limited districts.

I shall at present conclude with the observation of a scientific and practical road-maker, the late Mr. Edgeworth, who states the origin of the obstacles to be "the want of an economical application of the Trust Funds, as nothing relative to the construction or modes of drawing can avail much towards the improvement of the roads." For it is an axiom admitted by all parties that facility of communication in every country is one of the causes, and also a result of national prosperity, and that whatever charge or tax has a tendency to check this facility ought to be avoided. Now, if the subject finds an interest among your friends, I shall very probably enlarge on it in a more comprehensive view by statistical details, with a proposed remedy for the evils of the present irresponsible system of management of the Turnpike Roads.

Your's truly,
Devon., Feb. 23, 1837.

R. F.

SMITHFIELD FOR EVER!—LONG LIVE THE COMMON COUNCIL!!

[FROM THE MORNING HERALD.]

The Common Council have again stood forward nobly in defence of their own congenial Smithfield. They have treated with a becoming and characteristic disdain the petitions of the petitioners who have again presumed to petition for some abatement of the sanguinary and stercoraceous glories of their own, their ancient Smithfield—some mollification of that slaughtering giant who wieldeth, night and day, the pole-axe and the knife in the very centre of civilized intellectual

London; who causeth its conduits to be ruddy with the blood of bullocks and of sheep; and even changeth the complexion of old Father Thames himself—making the brown one red!—as the immortal bard of Avon somewhere observeth.

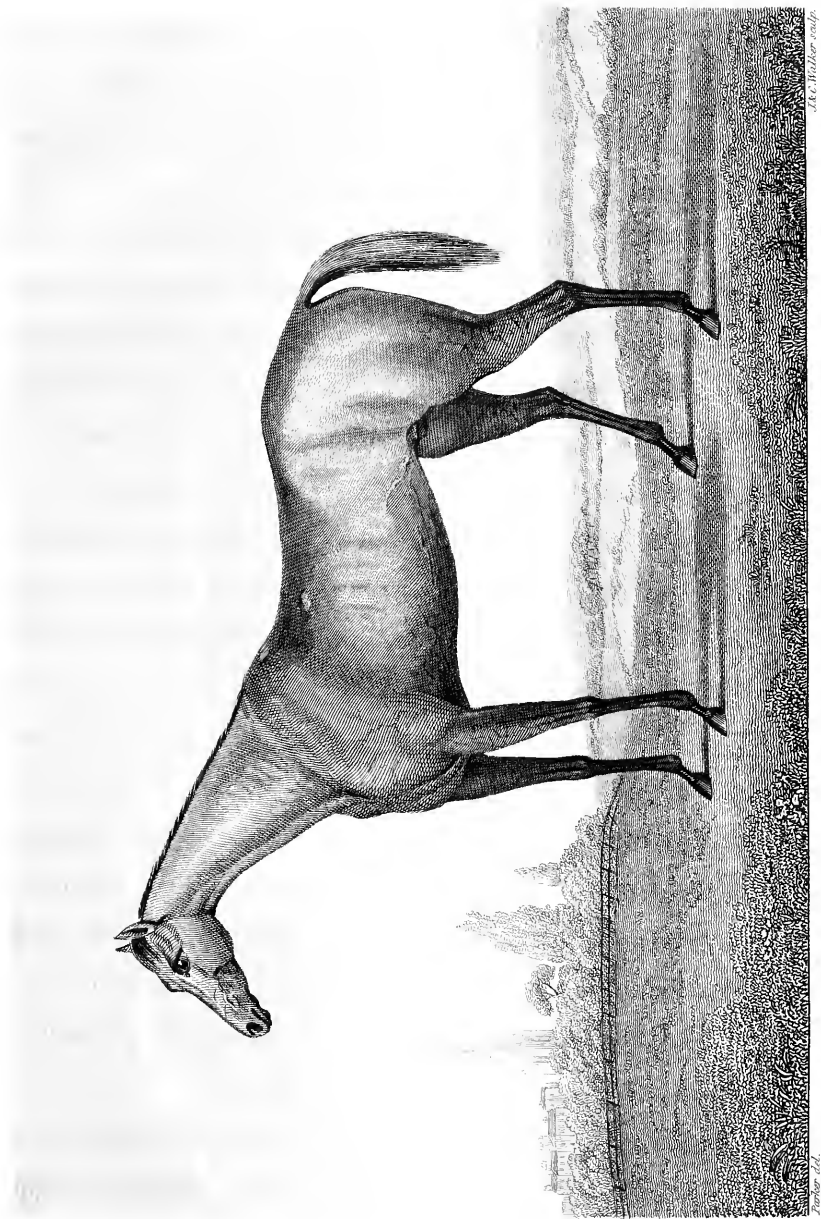
What would the petitioners have! What do they want?—or, in the expressive and characteristic query of one of the Common Council, "What am they up to?" As Alderman Lucas, very aldermanly, remarked, "Is there one of these petitioners who would object to put his knife into a *smoking sirlolin*? Certainly not; and I have no patience with their maudlin humanity;—a humanity that throws them into hysterics at the sight of a honest butcher in a red nightcap knocking down a bullock!" This is the opinion of Alderman Lucas; and though he is a *lighter* man than many we could name, there is no man whose opinion ought to have more weight in all matters relating to the beauties of butchery; nor can the great corporation of London boast of a greater ornament than the worthy and carnivorous alderman—by reason of that magnificent personal corporation of his own, which he buttoneth up in buff kerseymere so bravely every morning, and which precedeth him so dignifiedly wheresoever he goeth. May his shadow never be less; and may his body tailor look well to his waistcoat buttons.

Smithfield aboundeth in stercoraceous squash; and this is another of its virtues—another reason why the great and enlightened corporation of the first and finest city in the world should stick close by it. For what is stercoraceous squash?—what is it but a valuable commodity, producing (as was well observed by his worthy worship) much money to the corporation; and though some carping maudlinists may say such money is peculiarly "*filthy* lucre," yet, as the fine old Roman Emperor said, it has much the same smell as other money. And shall the corporation of London let *money* slip through their fine fat fingers? No, we say firmly, fiercely, and emphatically, no, no, no! Rather let Smithfield become chin deep in gold-producing squash; let us revel in its dark green delights; and let the Herald's College enrich the civic arms by quartering with its bloody dagger a shovel and broom saltierwise; and amplify its motto, by placing *Aurum Stercore* before its *Domine dirige nos!*

But it is not for gold alone that Smithfield and its stercoraceousness is to be prized. Gold is a great—a grand thing; for, as the aforesaid Bard of Avon sayeth—"Twill make black, white;"—and therein it closely resembleth that cast-iron patriot and true totter-up of tottles whom wicked Tories denominate *A Middleser Goose*. But the bottle-green stercoraceousness of Smithfield has a still higher quality;—it is absolutely necessary to the public health;—the *salus populi* is intimately incorporated with it! There is nothing more wholesome than that bottle-green squash;—and this is the reason that the patients in St. Bartholomew's hospital get well so much sooner than they do in any other hospital. They inhale the odour of Smithfield and live; whilst every where else they dwindle and die.—All which was clearly proved, not only by the aforesaid very worthy Alderman, but by those enlightened and common councillors, Mr. Stevens the gin-palace proprietor, and his patriotic colleague, Mr. Wilson.

How grateful then ought all the inhabitants of this great metropolis—from the King on his gilded throne to the cobbler in his stall—how grateful ought they to be to the Common Council for so pertinaciously perpetuating this prime source of health in the very midst of 'em!—from which source, as that shining prototype of the renowned Talgol (Mr. Deputy Iicks) once picturesquely exclaimed—"from which source health and fat beef irradiate all around!"

What should the Common Council say then to the maudlin humanists who are continually pestering them with petitions for its removal?—should they not say "Petition us no petition?—It is our will and pleasure to uphold Smithfield in all its sanguinary and stercoraceous immunities; and when this metropolis is ten times as large as it is Smithfield shall still be its only mart for that great physical relief which walks in oxen, and is carried out beef!"



J. C. Walker sculp.

SHEET ANCHOR,
Winner of the Irish Gold Cup 1835.
London, Published by J. Rogers, April 1. 1837.

J. C. Walker sculp.

SHEET ANCHOR.

(Platc.)

Animals in a state of nature are little subject to change; there are distinct varieties, resulting principally from the influence of climate; but these varieties, individually considered, continue much the same from one generation to another; thus, the lion of Southern Africa, distinguished for his superior size, his darker colour, particularly in regard to his mane, is precisely similar, beyond all question, to the lion of the same part of the globe which existed a thousand years ago. The Asiatic lion is a lighter coloured animal, and smaller than his South African brother; but, like the latter, has undergone no alteration from the earliest periods to the present time. However, if we direct our attention to those creatures which man has reclaimed, and reduced to servitude and subjection, we shall find that, from the successive changes which they have undergone, they can scarcely be identified with their prototype or pristine original: for instance, the rabbit, from a grey animal, weighing scarcely three pounds, has not only changed its colour to almost every hue, but has, by the persevering attention of man, attained a size and weight seven times more than it is found to reach, in a state of freedom and indispensable activity. If we look at the origin of our sheep, the moufflon, and compare it with the coarse large Lincolnshire, or the heavy Leicestershire animal, we shall find that the latter are four times as heavy as their remote progenitor. The urus (wild bull) would dwindle into a dwarf by the side of his domesticated fraternity. In fact, it may be very correctly remarked that whenever animals are induced to propagate in a state of subjection, they become susceptible of almost incredible alterations in form, colour, and size—precisely, as it may be said, in proportion to that degree of domestication which they are capable of attaining. If this be not exactly an axiom or first principle, the truth of the proposition is evinced in several ways, but in none perhaps so strikingly and so incontestibly as in the instance of the dog. We are not about to enter into a disquisition as to whether the countless varieties of this animal have descended from the same primeval individual: we believe that climate alters the complexion or aspect of the animals of the same kind; and as to the existence of one original dog, and one only, inasmuch as the question is beyond the reach of human investigation, it appears to us time worse than idly spent to pursue a problem that admits of no satisfactory solution. But, wherever the dog has been found in a genuine wild state, he has uniformly presented the erect ear, the long brushy tail, and all those characteristics observed in the jackal: therefore, keeping this animal steadily in view, what endless variety may we not trace from the large Irish wolf-dog, the enormous English mastiff, the

noble talbot, to the delicate Italian greyhound, the ugly Dutch pug, or the beautiful little lapdog spaniel; resulting entirely from that intimate domestication which this interesting animal has attained.

To come to our immediate subject, the horse. This animal, so fleet, so powerful, and so essentially important to man, is not nearly so sagacious as the dog; which, added to what may be called his physiology or animal economy, render his attainment of that degree of domestication acquired by the dog utterly impossible; and therefore we clearly perceive, notwithstanding the various forms under which he appears, that he is insusceptible of that almost infinite variety which every where presents itself in the canine race. However, the various classes of horses which meet the eye of the inquisitive observer, must be regarded as a proof of what we have stated, and very forcibly exhibits the successful efforts of human genius and human perseverance. Without going into an examination of the varieties of this noble quadruped, from the large elephant-like animal of Flanders to the Icelandic dwarf (as we have thus noticed the subject in previous numbers of our publication) we may correctly enough state that, even amongst racers, very considerable variety will be found: if we are anxious for what is called a compact horse, The Colonel may be regarded as an excellent specimen; if we wish for the opposite of this conformation, Longwaist (who died some time since) afforded an admirable sample: The Colonel and Longwaist were both distinguished racers; but as from the animal organization of the former he would naturally become a more lofty goer than the latter, his action would be necessarily more round, and therefore he could not get over the ground so speedily as Longwaist, where a less compact (and better) form enabled him to go more closely, or, in the language of the school, to become "a daisy cutter." A compact horse is generally supposed (and correctly so too) to be better calculated for the hunting field than the race course; because, having in the former case to cross uneven ground, for the most part, lofty action becomes necessary to a safe or sure mode of going; but it does not result that, because a horse is not made in a compact form, he is not therefore calculated for following hounds; the action of a horse, or his mode of going, if found defective or inappropriate, may be very much altered and improved by education, and those nags which, like Longwaist, would become daisy cutters on the course, may be easily taught to lift their feet sufficiently high when following hounds. Much may be effected by education; in this case, however, it is necessary to observe, that though it is no difficult matter to teach a horse where form is the reverse of compact, (but otherwise unobjectionable) to go sufficiently high, it is almost impossible to render a compact horse a daisy cutter, though

his action may and is much lowered when thrown forward in his training for the course.

Amongst our racers will also be found the deep ribbed horse, and the opposite conformation, or what may be called a falling off in the posterior ribs: of the former we may take Dr. Syntax and Elis as specimens, while Orthodox, Pelops, and Ainderby, may be regarded as samples of the latter. Deep-ribbed horses are better calculated for oft repeated exertion than the lighter carcased animals, though perhaps not quite so fleet for a short distance. Had not Elis been well made up for his year, and deep-ribbed withal, he must have sunk under the frequent and very severe exertion to which he was subjected during the late racing season.

There is also to be seen amongst our coursers what is well understood by the term "heavy-topped;" or horses where superincumbent bulk appears too heavy for their limbs, of which Plenipo affords a forcible illustration: but we are not aware of any form that can be regarded as the opposite of the heavy-topped; the legs of a racer to be large must have plenty of bone, and a superabundance of this fundamental substance is never complained of or considered a defect.

We rarely, if ever, meet with a horse *perfectly formed*: Longwaist, though a charming goer, was rather too loose in the loin to be exactly consistent (in his conformation) with the acknowledged rules of beauty; Lottery always appeared to us a very handsome horse, but on account of his vicious disposition, it was not an easy matter (or altogether free from danger,) to look him over satisfactorily. Mameluke appears a very beautiful horse on first or immediate approach, and were it not for the defect in his thigh (just above the hock) we should regard him as one of the finest horses that ever stood before us. And so we might multiply these observations almost *ad infinitum*.

Recurring to the heavy-topped horse, we are inclined to think that this defect generally results from the modern system of treating the racer in what may be called the first part of his life. For instance, from the moment he comes into the world he is fed to repletion; he is tempted in every form with the most enticing food, (as we have more than once had occasion to observe at former periods) in order to produce size and enable him to be ready to meet the earliest engagements: thus an animal with a good appetite, or what is called a greedy feeder, will naturally acquire great bulk, and become heavy-topped in some instances, particularly where a deficiency of bone is observable.

Sheet Anchor, whose portrait we have given, is a large horse for his year, and we decidedly prefer a large stallion; in our opinion, indeed, a stallion cannot be too large. If a small stallion were found to answer the purpose, the little mountain horse, the genuine Arabian, would be preferable to all others; because his action is superior to

that of his more bulky and much larger descendant. In the progress of breeding, it has not been found possible (or at least it has not yet been accomplished) exactly to continue that light elastic action, so remarkable in the horse of the desert, in our large striding racers. Strength must be considered as the basis of speed, as constituting in fact its most essential principle; but while we admit this incontestible axiom, we feel no hesitation in asserting, that activity also is indispensable to the perfection of progressive motion. When our most powerful racers exhibit the activity of the Arabian horse, their speed will become perfect, and not till then.

We have sometimes, though not often, seen a heavy going horse win a very secondary sort of race, but it has been irksome, if not painful, to observe him lumbering along till by mere dint of strength he has reached the winning post: a horse who goes by what may be called force, unaccompanied by the requisite lightness and elasticity, can never manifest very superior speed.

Sheet Anchor is very large, very powerful, and very handsome; he is particularly fine in the shoulders; his legs and feet are excellent: and, had we the opportunity of breeding our own hunters, we are scarcely acquainted with a nag we should prefer for the purpose. He is 16 hands 1 inch high, of a very dark brown colour. Sheet Anchor is by Lottery, out of Morgiana by Muley out of Miss Stephenson by Scud or Sorcerer. He came out at York (in 1835) for the Colt Sapping, which he won; he appeared at the starting post for the Doncaster St. Leger, and sustained no disgrace in running unsuccessfully against that extraordinary filly, Queen of Trumps. From Doncaster he went to Lincoln, where he won a Gold Cup or Piece of Plate; and came out only once afterwards, for the Portland Handicap, which he won in a canter, beating Hornsea, Birdlime, and several others. He was bred by a Mr. Golden. He will cover 40 mares, at 20 guineas each.

TAPE WORM IN THE POINTER AND SPANIEL.
—On an estate where a great quantity of rabbits are annually destroyed in the month of November, I have observed that several dogs who were previously in good health and condition, soon became weak, listless, and excessively emaciated, frequently passing large portions of the tape-worm: this induced me to examine the intestines of several hares and rabbits, and, with very few exceptions, I found each to contain a perfect tape-worm, from three to four feet in length. I then caused two of the dogs whose cases appeared the worst, to be separated from the others, feeding them on potatoes, &c.; and in eight or ten days, after voiding several feet of the worm, they were perfectly restored to their former strength and appearance. The vermicular disease, hitherto so formidable to the spaniel and pointer, may therefore in a great measure be fairly attributed to the custom of giving them the intestines of their game, under the technical appellation of "the paunch." The facts above stated, in explaining the cause of the disease, at the same time suggests the remedy.—T. M. Bagnold.

THE CORN CRAKE.

A bird of passage, known also by the name of the Land Rail, and Daker Hen. The Corn Crake may be regarded as the harbinger of summer: it is generally first heard about the middle of May, and continues its note during the breeding season, and migrates on the approach of winter. The length of the bird is nine inches; the bill is one inch long, strong, and thick, and of a greyish brown, formed exactly like that of the water hen, and makes a generic distinction. The eyes hazel, the feathers on the upper parts of a rufous brown, each dashed down the middle with black; the under parts the same, but paler and not spotted, and edged with pale rust colour; chin very pale; both wing coverts and quills are of a lightish chestnut; the fore part of the neck and breast is of a pale ash colour; a streak of the same colour extends over each eye, from the bill to the side of the neck; the belly is of a yellowish white; the sides, thighs, and vent are faintly marked with rusty-coloured streaks; the tail is short, and of a deep bay; the legs are of the colour of the bill. It is found among grass, corn, broom, and furze; and feeds on worms, slugs, insects, and seeds of various kinds.

In meadows, from the time the grass is grown until cut, there issues from the thickest part of the herbage a sound, expressing the word *crck, crck*; as we approach the sound retires, and is heard fifty paces off: it is the land rail that emits this cry. According to Pennant this bird lays from twelve to twenty eggs, of a dull white, marked with a few yellow spots. The nest is negligently constructed of a little moss or dry grass, and placed usually in some hollow of the turf where the grass is thickest. The young are covered with a black down, and run as soon as they quit the shell, following the parent bird, but quit not the meadow till the scythe sweeps away their habitation. The late hatches are plundered by the mower; all the early broods then shelter themselves amongst corn, in waste grounds overspread with broom, &c.

It is easily known when a dog scents a land rail from his keen search, and the obstinacy with which the bird keeps the ground; it often stops short and squats; the dog, pushing eagerly forward, overshoots the spot, and loses the track; the rail, it is said, profits by his blunder, and retraces its path; nor will it spring till driven to the last extremity, when it flies heavily and generally with its legs hanging down, but never far at a flight: when it alights it runs off, nor is it sprung a second time without great difficulty. It is, however, very easily shot, as it rises heavily, flies slow, and generally gets up within gun shot. When upon the wing, if it flies to a hedge, it will perch and sit till it is almost touched before it will move; indeed, it frequently escapes by this manoeuvre, as sportsmen seldom think of looking in a hedge for it.

Corn crakes are numerous on the banks of

the river Trent, in Staffordshire and Derbyshire, and in other parts of the kingdom; in Ireland, they are particularly so, where, it has been thought, many of them pass the winter. They are in the greatest plenty in the isle of Anglesea, where they appear at the latter end of April, supposed to come there from Ireland; at their first arrival it is common to shoot seven or eight in a morning. They abound in the county of Caithness in Scotland, and are found in most of the Hebrides and the Orkneys. Few places in England are destitute of them in summer, but they never winter here. It is observed where quails are in plenty, the crake abounds. On their first appearance in England they are so lean as to weigh less than six ounces; but before their departure have been known to exceed eight, and at this period they appear a mere mass of fat.

Bullon states that when the land rail returns to other countries the flight commences during the night, and aided by a favourable wind it attempts the passage of the Mediterranean, where, no doubt, many perish, as it is remarked that their numbers decrease on their return; that migrations of this bird extend more to the north than the south, and, notwithstanding the slowness of its flight, it penetrates into Poland, Sweden, Denmark, and even Norway. To the north he conceives the land rail repairs, as much for cool situation as to obtain its proper food; for although it eats the seeds of broom, trefoil, groundsel, and fattens in a cage on millet and grain, and, when grown up, every sort of aliment suits it, yet it prefers insects, slugs, worms, and these, which are necessary for its young, can be found only in shady wet grounds: the humidity of those of Ireland is also congenial to its nature.

Yet, after all, the most extraordinary part of the bird's history is how it contrives to cross the sea; and that the crake does absolutely cross it, is a fact which cannot for a moment be doubted. The bird, when seen in this country, is never known to fly more than a few hundred yards, with the utmost difficulty, and with the wind in its favour. Its body is heavy; while the wings are short, and the pinion bones unlike those of the quail, are apparently weak and inefficient; and therefore, as already observed, it is most extraordinary that a bird, which, in its ordinary functions or avocations is unable to fly for a single mile should nevertheless cross the Mediterranean. It is one of those astonishing secrets in nature, which in all probability will for ever remain inscrutable.

On Monday last a four years old wether sheep, belonging to Mr. Shepherd, of Murlon-hall, near Appleby, was discovered under the snow. The animal had been missing since the 24th of December, and must have sustained existence under the snow for seven weeks and three days. Although very weak and thin, hopes are entertained of preserving it. *Carlisle Journal.*

THE MONETARY SYSTEM.

(FROM A CORRESPONDENT.)

[We insert the enclosed from the pen of a valued correspondent, with a view to invite discussion; but we must distinctly state, that we widely differ from the writer in many respects.—E. D. M. L. E.]

It is useless to open the channels of commerce to an enterprising people, if the means to embark in it to its widest extent be withheld, as is the case at present in this country. A circulating medium is the means, but the circulating medium must be equal to the amount required to be useful, nay it should be rather in excess, than under. Gold is not equal to the task, by reason of its scarcity, and, also because, being by common consent the medium of barter all over the commercial world, and fluctuating continually in its value, it is constantly on the flight to the market where the value is highest; there is no fixing it to any locality. All that is requisite for the purposes of trade is a circulating money, fixed in value, which will not leave the country, and that is to be found in paper. Let the misnomered Bank of England be a national bank so far as to give to its notes the fixed value of being a *legal tender* throughout the empire, in payment of all debts, taxes, &c.; let it issue one pound notes and be restricted from paying its notes in gold; let all the joint-stock banks issue notes, subject to be paid on demand in Bank of England paper, and the country at once possesses the requisite to extend its trade securely without fear of the circulating medium being subjected to sudden contraction: this is no new scheme, it answered well during the war and will work as well, nay better, for the trading community in peace. But its advocates are met by the senseless yell of "high prices." Repeat the odious corn laws, and high prices is a bugbear of no meaning; but the agriculturists are in agony at the idea: open ports for the admission of corn, would benefit them in this way, corn would maintain a more fixed value than at present. It is a fact well known at Liverpool that foreign grown corn finds its way from Ireland, to the full extent of the quantity wanted to supply the deficiency of our own growth. All the difference in opening the ports to the free importation of corn, would be, to open the trade and take it out of the fraudulent smugglers' hands. The effect of a free importation of corn would be prodigious on our manufactories. If foreign countries could pay for our goods in corn, they would increase their consumption of our looms and anvils to an immense extent; and there is another correlative circumstance wholly kept out of sight, or unknown to our own corn growers, which is, that a great increase in our manufactories would create a great increase in our population; the increased population would eat all the extra foreign grown corn imported, and keep the price of corn up to a remunerating one to the home growers, and no fear of over supply for corn has never yet been produced in any country, on an average of seven years, to an excess much beyond its consumption; nay, it is a fact, that all countries experience not only one, but occasionally a succession, of bad harvests, and are dependent at such periods on foreign markets for supplies; as witness at this present time, America, and some parts of Russia, have taken from this country all the foreign bonded corn that was in it. There is another set of false alarmists to be dealt with, and their clamour is to be met with equal success, the *over production alarmists*; "the markets will be glutted, no demand, the mills must

shut up, furnaces blown out, operatives discharged!" Starving, ruin, and all the pretty fancies of diseased imagination poured out, to alarm and terrify the cautious and timid. Let the case of a free and full issue of paper currency—being substituted for the metallic one—be looked at fairly and its effects traced, and the result will be found to be indisputably beneficial to all ranks; consequently to the country a paper currency being established on a firm, solid, and permanent basis, the Bank of England would issue their notes freely, the local banks would do the same, and money would be easily obtained by manufacturers and merchants to any extent required; and just now these classes require this accommodation; the trade to the East Indies, China, and parts unknown in the Pacific Ocean, to which our productions find their way, is crippled for want of means to enter on it. The opening of those countries is almost a mockery, for at the time of the opening, the means to trade, to the full extent, is withheld; and this means does not lay in the bottom of the ocean, exists only in some country yet to be discovered, but is actually to be found at home, being the substitution of a paper currency for the ruinous one of gold.

But, the over-productionists are not to be satisfied with this prosperous state of things;—well let it be granted, that goods will be manufactured to a greater extent than required, and that distress will follow, merchants and manufacturers fail and the operatives thrown out of work. Over-production does not create a less consumption, like a disease on the animal stomach, the regular consumption will go on, and the effects of the over-production wear off by lessening the production for a season, and the demand for more follows actively the deficient supply, activity again pervades all classes. Granted that this revulsion and distress occur once in every seven or eight years; in the six years of successful run, the population of the country has been greatly increased, and the permanent wealth of the country, in buildings, rail-roads, engines, plate, linen, furniture, and domestic comfort, greatly increased, and at the revival of trade the county starts again with an increased population of some five per cent. and near to fifty in all the other things for another run of seven or eight years, and so on, and the wealth and population of the country, continually augmenting at each recurring period of distress. This would be the state of the country by the means of a proper currency. What is its state at present? Is it a golden one? Is not distress overwhelming all the trading classes? And if gold is to be continued as the circulating medium, it requires no conjuror to foretell the probable consequences; it will be absolute ruin to all, no caution can obviate the effects of a constantly recurring fluctuation, and that gradually effected in the amount and value of the circulating medium, no safety valve to prevent explosion, the passion to obtain gold leads individuals to the commission of murder, and it will lead this country to a suicidal end. W.

A sale of cattle, of the pure North Devon breed, took place at North Molton, on Friday, the 17th inst., at the farm of Mr. W. Davy, of Flitton. Our readers will judge of the importance of the sale, and appreciate the superiority of the stock, by a quotation of the prices:—a bull, 3 years old, 80 guineas; ditto, 10 months old, 28 guineas; cow, 30 guineas; calf, 1 week, 6 guineas. The number of lots, 29, and all sold at similarly high prices.

PLOUGHING MATCH AT HAILSHAM.

A lady in this county, who is well known for the interest she takes in every thing connected with agriculture, and the practical means by which she strives to induce the adoption of any improvements in the art, having offered premiums to the amount of 20*l*, to be contended for by ploughs, with not more than two horses abreast, driven with reins;—the match came off on Wednesday, March 1, at Hailsham. The principal object was not so much to test the skill of the ploughmen, as to try the relative merits of different descriptions of ploughs, and especially to afford a practical demonstration of the advantages possessed by the iron plough lately sent into this part of the country by Mr. Blacker, of Armagh. The ground selected was a field near the town of Hailsham, belonging to Mr. Lade. The natural peculiarities of the soil, and the state in which it was on this occasion from the incidental effects of the weather, were favourable for the operation of pair-horse ploughs. A great number of persons, including the most influential agriculturists in this part of the country, attended to witness the trial, which commenced at half-past eleven o'clock, under the direction of the stewards, Mr. Putland, of Firl; Mr. W. Rason, of Meads; and Mr. R. Boys, of the Gildridge farm.

After the land had been ploughed, a party of about forty agriculturists, including the judges and stewards, dined together at the George Inn. Mr. Putland officiated as Chairman and Mr. Boys as Deputy. After the cloth had been removed,

The CHAIRMAN, having proposed the usual routine of loyal toasts, proceeded to propose the health of a nobleman to whom, he observed, the agriculturists were deeply indebted for the staunch support which he had invariably given to their interests—"the Duke of Richmond, Lord Lieutenant of Sussex." (*Cheers.*) He next gave, the Earl of Egremont," and this toast was also greeted with great applause.

The CHAIRMAN said, he would next refer to the more immediate cause which had brought them together on this occasion—the kindness of a truly excellent and respected lady, whose goodness of heart, whose constant and well directed endeavours to the advancement of agricultural science and the prosperity of the farmers and labouring classes, must be duly appreciated by every person present. (*Cheers.*) By her generous donation, a spirit of emulation had that day been called into action, which, he was satisfied would not be without its good effects. At all events, he was confident that those who came from a distance to view the match, would allow that good ploughing might be seen in Sussex, as well as in other counties. Mr. Putland proposed, in conclusion, the health of Mrs. Gilbert, which was drunk with three times three hearty cheers.

The premiums were then awarded as follow:—

First Premium, 10*l*, to Mr. T. Hall, of Hellingly, for an old Sussex turn-rist foot-plough, held by John Akers.

Second Premium, 5*l*, to Mr. John Putland, of Firl, for the same description of plough, held by Richard Wood, of Willingdon.

Third Premium, 3*l*, to Lady Webster, for a Suffolk plough, held by Samuel Sinden.

Fourth Premium, 2*l*, to Mrs. Gilbert, for the Armagh plough, held by Mr. Hutchinson, (a small farmer from Ireland.)

Fifth Premium, (Italian rye-grass seed for an acre.) to Mr. T. Hurst, of Rodmill, for a Tickle-plough.

The CHAIRMAN then proposed the health of the judges, Messrs. W. Lamb, of Wilmington; T. Pagden, of Arlington; and B. Waters, of Motcombe.

Mr. WATERS briefly returned thanks.

Mr. PAGDEN said, he thought the mode of competition was hardly fair. Mr. Lade's man (whose ploughing was deservedly commended) had greater difficulties to contend with than Mr. Hall's; since where the land was "slit" it was much less difficult to lay it so that the harrows might get a good hold. Upon future occasions, he trusted the men would all be obliged to work in the same manner. Mr. P. concluded by thanking the company for the honour they had done him.

Mr. LAMB, in returning thanks, observed [that the

work done by the last plough in the field (Mr. Lade's) was very superior, and proposed that the ploughman should receive some encouragement for his skill. [A good sum was immediately subscribed and presented to him.]

The CHAIRMAN then gave "the health of Lady Webster, and thanks to her for sending her plough."—"The Earl of Chichester and the Magistrates of the Eastern Division,"—Mr. Lade, who had given the use of his field, and had also sent his ploughman to contend for the premiums."

Mr. DENMAN proposed the health of Mr. Putland, and the other Stewards.

The CHAIRMAN returned thanks and observed, that he was under great obligations to his brother Stewards, for the manner in which the business of the day had been conducted, and especially to Mr. Boys, in setting out the land. He trusted that the match would be productive of good effects.

Mr. BOYS in returning thanks, observed, that although the match had been projected with the most praiseworthy motives, having for their object the stimulation of a desire to investigate, and adopt if applicable, an improvement in the mode of Agriculture, yet he felt satisfied that Mrs. Gilbert had now good grounds for conviction that Mr. Blacker's plough could not supersede the Sussex ploughs; for it was observable on this occasion that heavy ploughs were required to work on heavy soils. There was great merit due to the Scotch plough, which had done its work better than some of the other ploughs that day; but it certainly was not adapted for general use in this country.

Mr. KING, of Berwick, said, it appeared to him that Lady Webster's plough had done its work well. The workmanship of another person too, who had ploughed with strange horses was very creditable to him. Any Sussex farmer would be enabled to decide, from experience, on the relative merit of the heavy and light ploughs on their soils. A heavy plough, he contended was absolutely necessary for heavy lands. Mr. King proposed the health of Mr. Hutchinson, and thanks to him for competing on this occasion.—This toast was drunk with three times three.

Mr. HUTCHINSON returned thanks. He said, his object as a stranger was not to carry off their principal prize; but to endeavour to prove to the Sussex farmers that it was possible for them to work with only two horses where they now had four. Mr. Blacker, who had done much good for Ireland by the improvements which he had introduced in the general system of cultivation, had sent him here to ascertain if this plough could be adapted to work in this country to advantage; and he did not see why it should not answer generally; for they all saw with how little draught his horses ploughed. He did not intend to throw the slightest imputation on the judges, who he was sure had done their duty conscientiously; but if the lots which had been placed before his had been judged in Ireland they would have been judged to be inferior; because in that country the rule of ploughing is, that the soil should be turned square,—as broad as high in the furrow, in order to offer the best facilities for sowing. Mr. H. concluded by expressing his acknowledgments for the honour done him.

Mr. WATERS said he thought that it was not fully understood whether these premiums were intended for the masters or the men.

The CHAIRMAN said, although the premiums were originally given to the masters, it was pretty well understood that they would go to the men. He and Mr. Hall had both promised their premiums to the ploughman. (*Applause.*) However he thought that 10*l* was perhaps too large a sum to be given in one premium to a labourer, and he should therefore propose that on any future occasion, if the premiums were to be given to the men they should be divided into smaller sums;—beginning at 5*l* for instance. After some further observations on this head, the Chairman proposed the health of J. D. Gilbert, Esq., which was drunk with due honours.

Mr. KING said the principal object of their meeting was more for the purpose of testing the different descriptions of ploughs, than for trying the skill of the

men; and on future occasions he thought that it would be more prudent, since it was necessary to hold out some inducement to persons to send their ploughs, to divide the premium in a fixed proportion between the master and the servant.

Mr. PAGDEN observed that Mr. Hutchinson had certainly exhibited some good workmanship; but in his opinion the error was that the furrows had been set right on edge so that vegetation had not been destroyed in the sod, and the grass would spring up between them.

Mr. HUTCHINSON said his chief object was to get his work as upright as possible, in order to form a good comb to cover the seed when sown. He had laid his land on a proper angle, to prevent the seed from getting through between the furrows.

Mr. PAGDEN said one-third of the seed would go under the furrow and not come up at all. He would not have his land ploughed with the Scotch plough, even if it were done for nothing.

Mr. KING said that opinions of ploughing were doubtless influenced by prejudice, as much as on other subjects. He would himself, rather have his land ploughed after his own notion, than have it done, even gratuitously, in any other mode. But he must own that Mr. Hutchinson's ploughing was "not so bad." He agreed too with Mr. Hutchinson, that the sharper the angle could be got after the land was turned, the more easily and effectually would the harrow catch it. (*Hear.*) For his own part, he would certainly sooner sow corn upon the land ploughed by the iron plough that day, than he would upon that done by Lady Webster's. There was 3 to 4 more grit (as we undertook) upon the former—This he would willingly allow; but he could not subscribe to the notion that the Sussex farmers, had in all cases been keeping four horses where two would have sufficed. Where stony lands and hills occurred, it was impossible that the Scotch plough, or any plough without wheels would be efficient, in some soils it would not even make a furrow. The land to-day had been favourable to the Scotch plough, and was any thing but a specimen of the difficulties of soil which Sussex farmers had to contend with. If Mr. Hutchinson would come over to his farm, he would entertain him as hospitably as he could, and prove to him moreover that there was land which his plough could not touch.

The CHAIRMAN then proposed "The health of Mr. Hall," also "Agriculture and Commerce," and "The Press."—To the last toast the reporters present returned suitable acknowledgments.

In the course of the evening Mr. Hurst accepted the challenge of Mr. Blacker, to plough with the Armagh plough and two horses, against any other plough and four horses.

Mr. DENMAN, with the concurrence of Messrs. Putland and Ade, offered to produce six men, parishioners of Willingdon, who should compete with any six men from Eastbourne, to plough half an acre each with oxen or horses, with the turn-risist wheel plough.—This challenge was not accepted.

Mr. JOSEPH FILDER also challenged any gentleman present to plough an acre of ground, and sow the same for five pounds. The challenge was accepted by Mr. Thomas Pagden of Chilver bridge, and the parties are to plough and sow an acre each upon each farm. The first trial will take place on Thursday the 23rd instant, at Mr. Pagden's and the second on Thursday the 30th at Mr. Filder's. The judges are to be Messrs. T. Hurst, of Eastbourne; Mr. J. King, of Berwick; and Mr. B. Waters, of Eastbourne.

THE TURNIP CABBAGE has a bulb, or apple, growing on a stem, from two to four inches from the ground, with considerable top, or leaf, resembling those of brocoli; the bulb, frequently, measures from 20 to 24 inches in circumference, and six or eight inches in diameter; is very sound, and of good

quality, particularly for ewes and lambs, and milch cows. For this description of stock, they are preferable to Swedes, or any other variety of turnips, cabbages, or mangel wurzel, for the following reasons:—1st. The Swede turnip will not force so much milk; and, it is generally acknowledged, lambs do not do well when the ewes are feeding on them; and, at the time of year they are most wanted for this purpose, they become hard and sticky; the lambs cannot eat them, and the ewes have great difficulty in doing so, unless they have excellent mouths. 2dly. Every other description of turnip is less hardy; after Christmas, the quality is very much deteriorated; and, in a severe Winter, a great portion becomes rotten and useless. Independent of these objections, a considerable part of all turnips grow underground; consequently, in wet weather, particularly, the sheep must eat a considerable quantity of dirt with them, which, from some soils, does great injury. 3dly. The drum-head, and all other cabbages, are, frequently, much injured by frost; the outside leaves become rotten, and unfit for food; and that portion which is sound, is not of so good a quality as the plant above alluded to, nor will it force so much milk. 4thly. They are preferable to mangel wurzel, as they can be obtained at considerably less expense, and may be fed on the land on which they grow. This is not the case with the mangel, which must be taken up, and carefully housed (or clamped,) to protect it from frost; but the turnip cabbage will stand perfectly sound, through the most severe Winter. This plant may be successfully cultivated on that description of land which will not grow good turnips; as a proof of which, Mr. Denton, of Madingley, Cambridgeshire, has, two years successively, grown them together (that is, in the same field, and on exactly the same soil;) each year, he has had a very great weight of the turnip cabbage; but the turnips have proved nearly a failure, not producing one-sixth of the weight per acre, although the seed grew well, and the plants were thick enough on the ground; but they did not grow to any size, although manured very highly. Mr. D. has, several years, tried to grow turnips on this soil (which is strong, black ground,) but not in one instance has he succeeded. In 1835, he planted two acres of the drumhead, and about two acres of the thousand-headed cabbages, in the same field, with some Swede turnips and rye; early in the Spring, he turned his couples (ewes and lambs) into this field, and let them ramble where they pleased, and partake of that food they liked best; after walking about some time, tasting first one, and then the other, they, at last, fixed on the turnip cabbages, and eat the whole of them, even a portion of the stem, before they began to feed on either the drumheads, thousand-heads, turnips, or rye—(this was done as an experiment, to ascertain which of the five sorts of food they preferred.) Mr. D. is confident, he never knew his ewes do so well, nor lambs thrive so fast, as they did when feeding on them. This year, he has got a very fine piece, at least from 27 to 28 tons per acre. I make my calculation of the weight as follows:—They are planted three feet between the rows, and two feet apart in the rows; consequently, if they had all grown, there would have been in number, 6,969 plants per acre; but, as near as I could judge, about one in 100 had missed—thus reducing the number to 6,899 per acre. I weighed twelve of the largest, and twelve of the smallest, I could find; and the average was eight pounds per plant (after being freed from the root and dirt;) thus, the nett weight amounts to 55,192lbs., or 27 tons, 10 cwt., 2 qrs., and 16lbs per acre. I am certain, I have not estimated the weight beyond

the mark. There are several other excellent crops of this plant in the neighbourhood, from 18 to 22, or 23, tons per acre. All those who have grown them two or three years, speak very highly of them, particularly as early food for ewes and lambs; all asserting, that the ewes produce more milk, and the lambs thrive faster, than when feeding on any other vegetable. The best method of cultivating this plant is, to prepare the land as for a turnip crop; then to draw furrows with a double bushed plough, three feet apart; deposit the dung in the furrows, and close it in, which will form ridges the same as on the Northumberland system of growing turnips. The plants to be raised on seed-beds; and, when they are about four inches high, should be planted on the ridges (prepared for them,) 20 or 24 inches between each plant; and, if the land is not tolerably moist, it is advisable to water them at the time of planting, and again in three or four days after. The seed to be sown, on the beds, the beginning of May; the plants will then be ready to put out, by the middle or latter end of June. The after-culture, the same as for mangel wurzel, or any other description of cabbage.—*Correspondent of Newry Telegraph.*

ON SOUNDNESS AND UNSOUNDNESS, AND THE DUTY OF THE VETERINARY SURGEON.

By MR. W. C. SPOONER, Southampton.

(From *The Veterinarian.*)

TO THE EDITOR.

DEAR SIR,—In your able leading article of last month on "The Examination of Horses," you conclude with the remark, "we will return to this subject, unless it should soon employ a better pen." Now, disclaiming every—the slightest—idea of depriving your readers of the advantage of your additional notice, I would yet venture to offer a few general observations on the matter in question; and if in so doing I should, in some degree, differ from you, I am sure you will regard such difference with your usual fairness and candour.

The horse trial that has led to your remarks presents, certainly, a singular discrepancy in the opinions of the practitioners who were concerned thereon, and a discrepancy, in many respects, to be regretted; the more particularly as the public are altogether unacquainted with those shades and shadows which often separate health from disease; but imagine, on the contrary, that the soundness and unsoundness of a horse must be as distinctly marked as the directing notice on a sign-post. I agree with you, that there is a great deficiency in the education of the student with regard to medical jurisprudence; but if this were obviated by longer attention to the subject, both on the part of the student and the lecturer, still it would not reconcile the present differences, nor afford a sufficient remedy for the evil complained of: for if there is much difference of opinion amongst the professors on this subject, they would, of course, make use of their opportunities in promulgating their own peculiar ideas; and thus would the mind of the student be bewildered in exchange for the ignorance which now so frequently prevails. Besides, however appropriate such observations on deficiency in the education may be to the obscure or newly-fledged practitioner, I cannot

think they would justly apply to those more eminent surgeons whose fate it has been to differ so much on the matter in question; for, supposing that they had received every instruction on medical jurisprudence that could be wished during their pupillage, yet it is not likely that, after some years' practice, they would still allow themselves to be tied to the apron-strings of their Alma Mater, but would, on the contrary, rather think and act for themselves.

With regard to the trial alluded to, let us endeavour, if we can, to account, in some degree, for the variation that appears in the certificates of the different practitioners. We will put Mr. Sewell's out of the question, as many of the defects which he points out might have got well in the course of three months; but with regard to Messrs. Field and Turner, we find that they both agree in one particular, that the horse was *unsound*. Now this is what we all endeavour to look for in examining a horse—*some cause of unsoundness*; and this being discovered, we may or may not mention other defects that may exist; and it is undoubtedly the fact, that the slightest alteration in structure may strike in a moment the eye of one practitioner, and escape that of another, particularly if the latter has already found sufficient to induce him to pronounce the horse *unsound*.

Some time since a mare was brought to me to be professionally examined, chiefly on account of a thorough-pin on the off-hock. This thorough-pin, however, did not interfere with her action, or injure her in the slightest degree, and on this account I could not pronounce her *unsound*; but I could perceive some degree of enlargement on the spavin-place of both hocks, particularly on the near one, but attended with no lameness whatever. In addition to this I discovered decided contraction of the off fore foot, accompanied with *indisputable pointing*. Putting these facts together, I did not hesitate to give a certificate of *unsoundness*, and in consequence the seller took her back; but I afterwards found that she had been passed by a veterinary surgeon.

"There is only one step," remarked Buonaparte, "between the sublime and the ridiculous;" and we may with equal truth apply the same observation to the terms *soundness* and *unsoundness*; for although they differ as much from each other as a negative and a positive can do, yet there is but the slightest step actually existing between them. And thus I take it there ever will be, as there ever has been, a great variation in the opinions of practitioners with regard to them.

To take up a particular case, let us see how it bears on the matter in question. An exostosis on the hock, for instance. This enlargement may have come on very gradually, and if unattended with lameness it is impossible for any one to detect it at the very onset. Some time afterwards its appearance is such as to strike the eye of the examiner, and he pronounces the horse *unsound* in consequence; whilst another practitioner might fail in detecting it, or might consider it as only the natural formation of the hock: and certainly there are many hocks much larger than others at the spavin-place. If the horse is actually *unsound*, yet he is not more so than he has, perhaps, been for a long time previous, although it is only now just discovered.

While on this subject, I should allude to the very useful and practical communication from Nimrod, in your last number, in which he gives us an account of his experience on the subject of spavin, which he thinks ought not to be considered *unsoundness*, unless attended with lameness. But Nimrod should bear in mind, that, when a horse is brought to a veterinary surgeon for examination, he knows nothing

of his previous history; the animal appears, perhaps, with a spavin which does not render him at present lame. Now this enlargement might possibly have been there for years, during which time the horse might not have been lame; but, on the other hand, it is equally possible that it may be only a few months old, and it might have produced lameness at first, which, perhaps, has been removed by rest and treatment, but will return with a renewal of his former work. These being the possibilities and probabilities of the case, the veterinary surgeon must act upon the safe side, and he does so when he pronounces the horse unsound. The purchaser may (if he knows the history of the horse) still be justified in giving a good price for him; and the opinion of the practitioner may rather dispose him to do so, although condemnatory with regard to soundness.

There are, doubtless, as Nimrod shews, many cases of spavin unattended with lameness, and many likewise that have been accompanied by lameness at first, but which has been permanently removed by rest and treatment; but, then, there are probably a greater number still that are attended with lameness which no treatment is able to relieve. How can we account for this fact? We see two spavins on two separate horses, each similar in size, situation, and appearance, to each other, and yet the one is attended with lameness and the other is not.

In order to explain this circumstance, I take it we must go deeper than the surfaces on which the exostosis appears; and we shall find, I would venture to assert, in seven cases out of ten, both inflammation and ulceration on the articular surfaces of the *tibia* and the *astragalus* (where the prominence of the former fits into the depression in the latter.) I should also observe, there are as many, or nearly as many, cases of hock lameness unattended with spavin, as with it; and I am not too bold when I state, that of these, nineteen cases out of twenty are owing to this disease in the upper articulation of the hock just spoken of, and which may, therefore, be accompanied with enlargement or not.

I had a horse, about twelve months since, brought to me for examination, he having been warranted sound; and the seller had assured the purchaser that the horse was only six years old, fresh on his legs, and quiet in harness. On looking him over, I instantly detected a spavin circumscribed and distinctly visible on the off hock—his fore legs too were extremely *shaky* and *knuckling*, rendering him very unsafe—he would not go in harness: and, to complete the catalogue of deceptions, on looking into his mouth I found he had been bishoped. The two *front* lower incisors were smooth, but marks were in the other four, thus presenting the appearance of a six-year old.

I immediately (to show the nature of the deception) erased with a small file the marks from the *corner tooth* on one side, and the *middle tooth* on the other; and desired the owner, when he presented the certificate of unsoundness (which I gave him on account of the spavin), to ask the horsedealer to account, if he could, for the very singular appearance of the teeth. The gentleman was fortunate to recover his money, with but little expense. Now here was a case, in which out of four serious faults the spavin was the least, for it was not likely to occasion lameness; yet it was this least of faults that alone enabled me to certify unsoundness, and the purchaser to return the horse.

On the subject of splents there are but shades of difference between soundness and unsoundness, and no one, I think, can venture to draw the line of demarcation with his pen. A moiety of our horses,

perhaps, possess splents in some degree, and it is only from our judgment and experience that we are able to tell whether they are likely to occasion lameness. I should say that, if they are large or near the knee, they ought to be considered as constituting unsoundness.

Then, with regard to corns, one practitioner may not discover any, but another, having the shoes removed, spies them out. But do they necessarily constitute unsoundness? They may be so slight and insignificant that we may at once decide that they are not likely to affect the horse, or injure him in any degree; and therefore we may consider him as sound. But, then, there are corns of every shade and degree, from the slightest speck of ecchymosis to the most serious evil; and difficult indeed is it to decide the exact line which forms the barrier between soundness and unsoundness in many of these cases. I mention these illustrations, in order to show that there are many cases in which the distinction between health and disease is so slight, that difference of opinion must almost necessarily occur; and it unfortunately happens that these are the species of cases that are most likely to come before a court of justice, while numbers of others, in which several veterinary surgeons entirely agree, occasions no notoriety whatever. But is our profession singular in this respect? Are there not numerous instances of the most remarkable discrepancies in the opinions of learned judges in their explication of the laws of warranty? After all, my dear sir, I agree with you, that there is far too much difference in the opinions and statements of practitioners with regard to soundness; and those professional (or unprofessional) encounters should, as much as possible, be avoided. The only plan that I can think of, as likely to conduce towards this purpose, would be for some veterinary surgeon to bring the subject fairly before the medical association, and for its members to meet together with the wish and desire to *agree as much as possible*; they should then draw up the general principles on which all or the great majority might coincide: and should endeavour to bring under the same head as many points of detail as possible, but mentioning those points and details on which a difference might be unavoidable. If this were done, and parties would, in some degree, *merge a few differences on minor points, and try to agree as much as possible*, then certain data might be obtained, which would be of the greatest service to practitioners in general; and those professional tournaments might be avoided, which are now so frequently witnessed in a court of justice, by which all are alike injured in the end, the victors and the vanquished, whichever for the time may prove triumphant.

With regard to another branch of the subject which you have taken up, I must confess my opinion that a veterinary surgeon has nothing to do with the price of a horse, nor is he competent to judge of his merits, unless he gives him an extensive trial, of which neither his time will admit, nor the usual fee afford a sufficient remuneration. If a carriage-horse be the subject of examination, he had need to see him perform a journey before he can judge of his value; and if a hunter is the object, the practitioner must witness his performance through a good day's hunting before he is able to judge of his merits, or tell whether he is worth 50*l* or 200*l*. If a veterinary surgeon decides as to soundness, discovers the faults, and points out the blemishes, he has, I think, done his duty, and fairly earned his half guinea fee. Of course, if he is employed by a friend, he will give such advice in addition as one friend may be expected to give another, but this will be a sacrifice to

friendship, and not to professional duty; and I certainly think that we ought not to run the risk of taking the bread out of the horsedealer's mouth by advancing an opinion which we have no opportunity of deciding correctly, and which therefore may be erroneous.

My letter has swelled much beyond its intended limits, but I hope these vague and hurried observations may not be entirely useless, and that the subject may receive the benefit of other abler and more practised pens.

ON CROSSING THE SHORT-HORN WITH OTHER CATTLE.

BY MR. JAMES DICKSON, CATTLE-DEALER, EDINBURGH.

(From the Quarterly Journal of Agriculture.)

I shall now adduce numerous instances of improvement in breeding, by crossing the short-horn bull with the cows of other breeds, in order to shew the value of the short-horn bull as an improver of breeds.

1st, THE CROSS OF SHORT-HORNED BULLS WITH SHETLAND COWS.—I have seen several specimens of this cross, which, with common feeding, have attained the weight of forty-five stones, and of rare quality, commanding the highest price in the market. The fine quality of the Shetland beef is not deteriorated by the cross, while the weight, symmetry, and substance, are much increased and improved. The most remarkable instance of this cross I am acquainted with, was an ox out of a cow weighing only about eighteen stones, and when thick-fat was one of the handsomest and completest animals I ever saw of any breed. He was bred and fed by Mr. Baillie, of Jerviswood: I purchased him when three years old, at Earlston fair, for 25*l*., and after feeding him one year on ordinary food, sold him, at four years old, to Mr. Thomas Taylor, fletcher in Edinburgh, for 40*l*.; and when slaughtered he weighed upwards of eighty stones. He was considered by judges as the finest animal, in point of quality, ever slaughtered in Edinburgh; and that an ox out of so small a cow should attain to the weight of ten cwt., with common feeding—for he got no extraordinary kind of food—should certainly surprise any who had not either tried or had seen the experiment tried. This is altogether a commendable cross, for its value is comparatively great to the original breed, and it is hardy and easily kept; and its prime quality will always insure a ready and high market for the produce. Another remarkable instance of the superiority of this cross was produced by Mr. Dudgeon, of Spylaw, at the Highland Society's Show at Kelso, in 1832. This instance consisted of two heifers, prime fat, and of first-rate quality, and they were much admired by every body who saw them. Their portraits were drawn by Mr. Shiel, S. A. an artist of first-rate excellence as a painter of domestic animals. His qualifications for the art are founded on a knowledge which we suspect few artists will condescend to acquire,—a thorough knowledge of the points of animals. He is, in fact, a first-rate judge of stock, and, knowing the points which peculiarly characterize the different breeds, he cannot fail, as an artist, to produce portraits which are not only good pictures, but which exhibit those points which judges delight to appreciate. Mrs. Boswell, of Blackadder, Berwickshire, has a small Shetland cow which has produced an ox of 70 st. and a heifer of 60 st., both fine animals.

The Shetland breed might be made a valuable

means of improving the breed which inhabit our upper mountainous regions. I would recommend a cross with it, which has never been perhaps tried at all, or, at all events, has never been known in our markets. As I have already described, the West Highlanders are remarkable for many valuable points, such as thick coats of hair, hardy constitutions, fine symmetry, aptitude to fatten, and of great substance. In these points they are much superior to the Shetlanders, which chiefly possess one superiority,—fine quality of beef. Now, were a cross instituted between first-rate West Highland bulls and Shetland cows, a breed would be produced possessing points much superior to the Shetlanders, and superior to the West Highlanders in quality of beef. Such a cross would be admirably adapted to fill the place which is at present occupied by what is called the North Highland breed. After the establishment of this cross, which would be valuable for the higher districts, it might be still farther improved and adapted to the lower districts, by crossing the first-rate short-horn bulls. I have no doubt that this improved cross would exhibit cattle with proportions and qualities superior to any breed at present in existence. It would possess the fine quality of the Shetland beef, with the hardy constitution and shaggy coat of the West Highlander, conjoined with the size, substance, great aptitude to fatten, fine symmetry, rich colours, and beauty of the short-horn. This improved cross, with all the valuable properties, would ensure the highest price in any market.

I am aware that many breeders, and breeders too who are favourable to crossing, would condemn the pursuance of a second or more crosses; because they injudiciously believe that every cross after the first must deteriorate. I am of an opposite opinion. I believe that crossing cannot be too far promoted, provided the male parent possesses that high tone of blood which I have attempted to describe in former papers, and which it is necessary to preserve to maintain judicious crossing. There is a judicious, and there is an injudicious mode of crossing. If the males of the first or subsequent crosses are kept for bulls, then the cross obtained from these bulls will be highly injudicious, and the deterioration in the breed which the breeders alluded to dread from all crossing after the first, will certainly be realized; but were bulls only of the best blood always used to promote a cross, the cross will certainly be an improved animal.

2nd, THE CROSS OF SHORT-HORNED BULLS WITH NORTH HIGHLAND COWS.—This cross would certainly improve the breed of this part of the country; and although the native stock is not so favourable for the experiment as that of Shetland, owing to the great inferiority of the quality of the breed, still this cross, like all crosses in the same way, would be much better liked by feeders than the native cattle; and were the smaller tenants of these northern counties to raise a few turnips, the condition thereby surely acquired by the cross would commend them favourably to dealers and feeders. Mr. Darling, manager for Mr. Horne of Strikoke, about twelve years ago, purchased a short-horn bull bred by the late Mr. Thomson, of Laws, in Berwickshire, for the very purpose of crossing with the native breed. By such a proceeding, in the course of time the whole cattle in the district would generally assume an improved aspect. Mr. Darling's experience will prove this. He has sold three-year-olds of this cross at nearly double the price of his neighbours, who still persist in keeping the native breed. Of late years, Mr. John Wilson of Simprim, has supplied Mr. Darling with short-horn bulls; and to shew the value

which Mr. Wilson puts on this cross, he has purchased the three-year-olds from Mr. Darling, and fed them another year in Berwickshire. Of these he has shown some extraordinary animals, and particularly a lot of twenty-six at the June fair at Dunse in 1836, which fetched nearly 25*l*., and would have averaged about seventy stones each. They were afterwards shipped at Leith for Smithfield, where they were considered the best beasts in the market of the day.

Much of the land in Sutherland and Ross shires could support short-horns; but the cross, I conceive, would be more commendable, not only as being hardier, but that part of the country being far from the fat market, it would be better adapted to travelling to the south country markets than short-horns. What noble cattle, both stots and queys, would not the cross with Dunrobins make! They are naturally fine cattle, particularly upon such a pasture as at Dunrobin, but they would certainly be improved in substance, and be more profitable by crossing.

3d, THE CROSS OF SHORT-HORNED BULLS WITH ABERDEENSHIRE COWS.—Both the Buchan doddies and the large-horned Aberdeenshire breed are well adapted for crossing with the short-horn. Their rougher points and plain skins would be smoothed down and ameliorated. When attending the cattle show at Castle Haugh, near Old Deer, one season, I recommended to breeders to try the cross, and I was happy to hear that some trials had already been made in that way, and successfully. Lord Kintore shewed an extraordinary ox at the Highland Society's Show at Aberdeen in 1834, a cross with a large-horned Aberdeenshire cow, and which obtained the first prize for fat, symmetry, and weight. He was sent to London to the Christmas Show of the Smithfield Club in 1833, and was brought back again to Aberdeenshire, with the view, no doubt, of being shown at Aberdeen. He was seven years and six months old, of extraordinary fatness on most of the best points, and scarcely able to walk. He was sold for 100*l*., and slaughtered a few days after the show by Mr. Roger, Aberdeen. His live weight was 224 stones; dead weight 173 stones 4 lb. His tallow was only 16 st. 7 lb.; hide 8 st. 3 lb., which was a small weight for an ox which girthed 10 feet 3 inches; entrails 126 lb.; blood 84 lb.; head and feet 64 lb.; heart and liver 43 lb.; tongue 14 lb.; and kidney collop 5 lb.

Mr. Boswell of Kingcausie, shewed a three-year-old cross at the same show. He was, without exception, one of the most perfect oxen ever seen. His general symmetry was beautiful, the points all prominent and well covered, and in the highest hard-fat condition. He was slaughtered by Messrs. Reid and Sparks, Aberdeen. His dead weight was 89 st. 10 lb.; hide 6 st. 2 lb.; and tallow 14 st. 4 lb. One of four oxen shewn by Messrs. Reid and Sparks, Aberdeen, was a cross, and although a year younger than the rest, he was not much less in weight. I once saw a lot of crosses, about fifteen, shipping at Aberdeen for London, which would weigh about 65 stones, and had been sold for 20*l*. a-piece.

Aberdeenshire is admirably circumstanced for carrying on the crossing system. Naturally possessing a breed of strong characters, generally inclining to coarseness, the cross would fine down the asperities, induce a disposition to early maturity, and improve the weight and quality of the carcass, while the convenience of steam navigation invites to the advantages of the London market. This county is in the vicinity of Captain Barclay's stock, from which could be supplied bulls of pure blood and sure pedigrees, which had been bred and inured to the climate of

that part of the country; and this is an advantage of no mean consideration for breeders. Indeed, crossing is now pursued with ardour in this county. Captain Barclay, who was not long ago under the necessity of disposing of his young bulls in Edinburgh, can now find a ready market for them in the county at high prices; and this year, although he had a large lot of bull calves, which sold at high prices, averaging 37*l*. 10s. each, the breeders could not be supplied, but were obliged to import young bulls from the border.

4th, THE CROSS OF SHORT-HORNED BULLS WITH ANGUS COWS.—This cross has been much attempted, and attended with complete success. Mr. Anderson of Balunie pursues this system, and Mr. Hood of the Hatton of Eassie, has shewn some very superior stock of this kind. About three years ago, he shewed a lot of ten three-year-olds, some of which were crosses and pure Angus. They were sold for 17*l*. 10s. a-head, as prices were then rather dull; but what induces me to notice this lot particularly, is, that the crosses were fully 8 stones each heavier than the Angus, and worth 5*l*. a-head more. I saw some superior cows at Mr. Hood's, which were of the second and third crosses with short-horn bulls, which I much admired, shewing good symmetry and fine coats of hair, and in very high condition for breeding cows, some of them being 60 stones, and fit for the butcher. Before Mr. Stephens got into the pure stock of short-horns at Balmadies, he pursued the crossing with Angus cows. The cross queys and stots were fed off at three years old, and though prices were at that time very dull, they were sold from 17*l*. to 23*l*. a-piece, some of them above 80 stones. As a proof of extraordinary growth in a cross, he purchased a two-year-old stot from a tenant for 6*l*. It had been more than half starved all its days, and was exceedingly lean, but it exhibited good bone, and a loose kindly skin. It was grazed and fed next summer and winter, and sold in April after, just a year after it was bought, weighing about 70 stones, for 17*l*. 17s. He sold a pair of roaned polled queys (twins) at three years old, of 70 stones each. They were so like each other, that few people could recognize the difference; and when slaughtered by Mr. Walter Maclean, flesher, Forfar, more perfectly ripe animals of their kind could not be found. Many people kept cross queys for cows, which turned out uncommon milkers. Mr. Stephens also tried the second and third crosses, and found them superior to the first. Mr. John Wilson of Edington Mains, in Berwickshire, a short-horn breeder, has adopted a system of crossing with Angus queys which has hitherto proved successful. He purchases every year a lot of two-year-old Angus heifers at June Trinity-Muir market, at Brechin, in Forfarshire, for 5*l*. or 6*l*. a-piece, which are laid on to coarseland grass with a short-horn bull. They are wintered in the straw-yard on straw and turnip tops, and bear calves the following spring, which they suckle. They are grazed on the same kind of land the following summer, till about August, when the calves are weaned, and both cows and calves are put on the best keep. The cows are fed the following winter, and generally realize 12*l*. or 13*l*. a-piece. The calves are fully fed in winter and summer, and sold at twenty-four months old, when they are worth, on an average, 16*l*. a-piece. In 1836, the price realized for such was 20*l*. a-piece. This plan is abundantly profitable for those who have some coarse pasture on their farm. The grazing on it is not costly, and the turnip tops, which would be thrown away on feeding beasts, are consumed and become useful to the queys in calf in winter. The calf, when

weaned, is worth nearly as much money as the cost of the keep of the cow till that time; and there are 6*l.* or 7*l.* left for feeding her six or seven months, besides the saving of the trouble of keeping the cows, and milking them, and feeding the calves by hand. All the stock continues quite healthy. This is a system well worthy of imitation by breeders, particularly by breeders in Angus and the northern counties, who have land adapted for it. Mr. John Wilson of Cockburn, in Berwickshire, also pursues the same system of crossing. He sold a lot of this cross in March 1836, rising two-year-olds, at 16*l.* 10*s.* each, averaging about 52 stones. Mr. Wilson also tries the second cross, the calves of which are much superior to those of the first cross. Here is another instance of pushing the cross beyond the first attempt with advantage. Mr. Robert Blackadder, Ninewell Mains, in Berwickshire, keeps a regular stock of Angus cows, from which he rears a cross of a most excellent kind.

5th, THE CROSS OF SHORT-HORN BULLS WITH FIFE COWS.—I understand that some breeders in Fife, among the rest Messrs. Thomson of Pusk and Rathillet, have excellent crosses, but as I am not sufficiently acquainted with the facts I cannot detail them. The Fife breed are well adapted to cross with; their gaunt figure would be improved, and their disposition to fatten would be greatly increased. Fife has great inducements for the improvement of her cattle. The Edinburgh fat market is quite at hand; and that at Glasgow is not farther off than is Morpeth from the breeders on Tweedside; and when steam vessels can be found both at Leith and Dundee, the London market is also thus brought within the reach of every one in the county. But before the Fife breed of cattle realize the top price at Smithfield, and pay the expenses of conveyance by steam, it will require to be considerably ameliorated in its rougher points, and no treatment could effect this amelioration more speedily and effectually than crossing.

6th, THE CROSS OF SHORT-HORN BULLS WITH WEST HIGHLAND COWS.—I have already said that the West Highlanders approach in external characters nearer to the short-horns than any other native breed; indeed, in regard to form and substance, they are just short-horns in miniature. The cross has been frequently tried by Lowland breeders, and succeeded admirably. I should not recommend the cross to be universally introduced into the Western Highlands and islands; because, from the wetness of the climate in many parts, the shaggy coats and hardy constitutions of the pure breed are alone able to defend them from its effects. The Isle of Skye, for instance, which possesses the native breed in uncontaminated purity, could not be better appropriated than it is at present in raising the pure breed for the supply of other parts of the country. But there are many parts of the Western Highlands which might be more profitable to the tenants, and of course through them to the proprietors, occupied with this cross. Few crosses exceed this in beauty and value; and under less favourable circumstances, as inferior land and inferior herbage, none is more profitable. I shall mention a fact or two to shew the superiority of the cross over the pure breed. I purchased twenty West Highland heifers at Dumbarton fair for 4*l.* 10*s.* a-head, and put a short-horn bull among them. This bull proving defective, another was put, a white one by Diamond, out of the roan cow Darnly, bred by Mr. Compton of Carham. Having thus been served late in the season, the queys did not calve till the beginning of July in the following year. Being all roan, Dr. David Skirving of Garleton in East Lo-

thian, took a fancy to them and bought them in the following spring for 7*l.* a-piece. Having in his possession at the time two dun West Highland stots, the dams of which were purchased from Mr. Peter McIntyre of Glenartney, on the Drummond estate, as already mentioned, when treating of West Highland cattle, Mr. Skirving thought of trying an experiment on the comparative feeding powers of crosses and pure breeds. He accordingly selected two of the crosses, then ten months old, to experiment with the two West Highlanders, which were at the same time twenty-four months old. The latter had thus a start of fourteen months in the age, and they were forty stones a-piece, while the former were perhaps not half that weight. The four stots were fed together rather more than two years and a half, when they were shown at the Highland Society's Show in 1827. To prove that the West Highlanders were superior of their kind, they obtained the premiums for that class; but one of the crosses obtained the premium in the class shewing the most fat, symmetry, and weight of any age and breed. This ox was only three years and four months old, and he beat six or seven others which were not less than five years old. He was considered by the judges, and all who saw him, to be the most perfect animal of his age ever shown in Edinburgh. The four oxen were purchased by Mr. Thomas Taylor, flesher in Edinburgh, for 170*l.* The two crosses were resold before they left the show-yard to Messrs. Duncan and Cowan, fleshers in Glasgow, for 100*l.* When slaughtered the West Highlanders were both nearly of one weight, 74 stones each, and had 12½ stones tallow; the crosses were, one 82½ stones, the other 77½ stones; average 80 stones, and 14 stones of tallow each: thus yielding 6 stones of beef and 1½ stone of tallow each more, and fourteen months younger than the pure breed. Mr. Brodie of Northfield tried this crossing, about fifteen years ago, and realized 15*l.* and 16*l.* a-piece for two-year-olds, though they had suckled their dams on Coldingham Common, on the Lammernoor Hills, on very coarse land. His successor on the farm, Mr. Alexander Heriot, follows the same system, and shews excellent fat beasts at two years old, and obtains the highest market price for them. Mr. Bates, late of Halton Castle, an eminent breeder, pursued this system with success. Mr. John Blackadder, Blarnerne, East-side, Berwickshire, has pursued the same cross for ten years, with great success.

7th, THE CROSS OF SHORT-HORN BULLS WITH AYRSHIRE COWS.—Comparatively few oxen being brought up to slaughter, and this having established itself as a decided dairy breed in Ayrshire, I would not recommend their being crossed at all. In other situations, however, where gentlemen choose to have their dairies supplied from the Ayrshire cows, their cross progeny might be fed off, and the cow stock replenished direct from Ayrshire more profitably than by breeding them on the spot.

8th, THE CROSS OF SHORT-HORN BULLS WITH IRISH COWS.—Many people imagine that all the Irish cattle are coarse, but they are mistaken. Most of those indeed, which are brought from the north of Ireland, are coarse enough, and very inferior in shapes, points, and quality; but the cattle from the southern and midland counties of Ireland are excellent, and will feed to great weights. They would be, no doubt, much improved by crossing, and for that purpose I understand many short-horn bulls have been imported into that country, in order to suit their fattening disposition for the English markets, which are now the great marts for the sale of their cattle. I have seen as well-fed beef in the Smithfield market

of Dublin as in that of London. I once saw in Dublin a lot of four-year-old cross heifers from a bull from the stock of the late Mr. Alexander Thomson of Laws, in Berwickshire, out of Irish cows. It was a very superior lot of cattle; and sold for 26*l.* a-head. I saw them slaughtered, and their average weight was 30 stones, some of them 90 stones. The beef was of very fine quality, and thick upon the surloins and backs. There were other lots of crosses in the market, and the butchers and dealers seemed to like the crosses very well.

9th, THE CROSS OF SHORT-HORN BULLS WITH GUERNSEY COWS.—One of this cross from the stock of Sir John Hepburn of Smeaton, in East Lothian, came into the possession of Mr. James Howden, of Spittalrig, in the same county, which was kept for a bull, and became a very fine animal. I saw him when fat, and he was, without exception, the fattest bull I ever handled. He was fed on distillery offals, and sold for twenty guineas, and when slaughtered in Edinburgh, the four quarters weighed 104 stones, and the tallow 22 stones.

10th, THE CROSS OF SHORT-HORN BULLS WITH INDIAN COWS.—A heifer of this cross belonging to Sir Anthony Maitland, was shewn at the Highland Society's Show at Kelso in 1832, and was admired by every one for its fatness and extreme beauty, the back and surloins being well covered with beef. It was afterwards slaughtered in Edinburgh by Mr. James Shaw.

11th, THE CROSS OF SHORT-HORN BULLS WITH GALLOWAY COWS.—The remarks which I have made on the cross with the Angus and Buchan doddies, will apply to that with Galloway cows.

The facts which I have adduced in regard to the results of crossing, unquestionably prove that, in all situations where the pure bred short-horns cannot be most profitably maintained, such as in the upland districts, and coarse pasturage on inferior soils in the lowland districts, the cross between the pure bred short-horn bull, and the cow of any native breed, will yield more profit to the breeder than the continuation in the cultivation of the native breeds. There are one or two exceptions which I would make to this recommendation; but before these exceptions, and the working of the general system recommended can be fully understood, a few preliminary remarks are requisite.

In the first place, when we look at the general features of this country (Scotland) all the pasture may be classed into three great subdivisions, viz., the highest or natural heathy pasture; the middling or natural green pasture, and the lowest or artificial pasture of the plains. These three kinds of pasture are situate on different geological formations. The heathy natural pasture is situate on the primitive rocks or formation; the natural green pasture on the transition or secondary formation; and the artificial grass of the plain is situate on the alluvial or tertiary formation. Now these three different situations for food are suitable to three different breeds of cattle having properties and habits and constitution in conformity with the respective situations. As we have taken a review of all the principal breeds of cattle in this country, we are enabled to indicate what breed or breeds should be placed in these different situations. Reason teaches us it would be improper to place a large breed on high scanty herbage. The uppermost or heathy pasture is generally scanty, and can only be plentiful for a few months in summer. We have seen that small black-coloured hardy breeds exist in the north of Scotland, commonly called North Highlanders. Shetland, Island of Lewis, and Rossshire present such cattle, and on

examining them we have found that the small Ross-shire cattle possess points nearest to the rule we have explained, by which to judge of the good or bad properties of cattle; and they are sufficiently hardy in their constitution for the situation. But the best race of cattle for the upper region I conceive would be the cross between the West Highland bull and the Shetland cow, as recommended above. In winter when these elevated pastures are covered with snow, the cattle must of course be brought down to a lower situation, and cared for as all other cattle are, for it is only in summer that the natural heathy pastures are generally available to cattle in Scotland.

The natural green pastures, at a less elevation than the former, can be used for the greater part of the year, their greenness arising from warmth and humidity, both encouragements to vegetation. We have seen, that of all the breeds of cattle which frequent these green pastures, there is not one comparable in good points to the West Highlanders. Their shaggy coats, and hardy constitutions, are quite suited to the elevation and humidity of these green pastures. The West Highlanders have not yet found their way to the green natural pastures of the east coast, where the small horned brae cattle occupy the same region as the former do on the west coast. But, in point of quality, there is no comparison between the two breeds. The east coast having a drier climate than the west, the West Highlanders might perhaps lose a little of the shagginess of their coats by a transplantation to the east coast; but there cannot be a doubt that, in hardness of constitution, they could withstand the test with the brae cattle, while their other points of superiority would ensure greater profit to the breeder.

All the plains could support pure short-horns, if they were bred and fed on their respective plains or situations. They could thrive as well in Caithness, Cromarty, Buchan, Kincardine, Angus, Fife, and Galloway, as in East-Lothian, and the Border counties, and be much more profitable to the breeder than any of the breeds of the plain at present in existence. I conceive no farther proof than has already been given of the feeding properties of short-horns, is requisite to establish this point. Like the multiplicity in the varieties of the potato, there are too many varieties of breeds of cattle in this country. Were those only which are proved to be most profitable cultivated and encouraged, the agricultural interest would never feel so severely the depression in the prices of corn; nor in that case need breeders be under any apprehension of a foreign competition, even were the importation of foreign meat permitted duty free. Could I have my desire fulfilled, I should have only the three breeds which I have recommended for their respective situations throughout the whole country, namely, the cross recommended between the West Highland and Shetland for the upper pastures, the West Highlanders or Kyles for the middle pastures, and the short-horns for the plains, for purposes of feeding; and the Ayrshire might continue as they are, or rather as they might be improved by judicious cultivation for the purposes of the dairy, although I am not of the opinion that the Ayrshire make the best dairy cows. Could such a desideratum be consummated, breeders would then derive the greatest profit from their pastures with the least exertion, and they could always depend on their cattle acquiring the greatest weight in a given time on a given quantity of food, and this invariable result would stimulate their exertions to raise a greater quantity of food. Indeed, the ability of the ground to produce the largest quantity of ani-

mal food could then only be the limit to the greatest profit. What, then, would be the degree of perfection which our agriculture would attain, for it is only by the extension and improvement of live stock that the fertility of land can not only be maintained, but increased!

The accomplishment of such a wish as I have expressed, namely, that only the breeds of cattle were cultivated which I have now recommended may be improbable, but it is not impossible. Were all breeders imbued with a sense of the importance of such an arrangement, the result could be attained in the course of a few years. Indeed, were plans simultaneously adopted for the attainment of this desirable end in different parts of the country, the enlarging circles of improvement would meet in their circumference much sooner than most people might anticipate. It might, in short, be done by a system of judicious crossing; and to the elucidation of this subject I shall now direct the attention of the breeder.

I am well aware that many breeders object to crossing at all. They conceive that it is much better to allow the breeds to remain as they are without mixture, than to introduce numerous mongrel races the origin of which it would be ultimately impossible to trace. I object to promiscuous crossing as much as any man. It is to this injudicious system that may be traced the existence of so many miserable breeds of cattle in the country. Any one who takes a leisurely survey of the breeds in Scotland through the midland and northern counties must be satisfied, that many of them are inferior to the best kinds, and that to cultivate them is just to bestow labour on that which is unprofitable. It is surely not sufficient for a farmer that he has merely a lot of cattle so called, to trample down his straw and eat his turnips, regardless of the return in flesh which these cattle may give for the meat which they consume, and the care which they require. It is requisite that these cattle leave an adequate profit, otherwise how can the farmer pretend to disburse the rent which he has undertaken to pay? Can he expect the same market price for an inferior kind of wheat and barley which he may obstinately choose to cultivate, instead of the ordinary and superior kinds which are in every farmer's hands? If not, by a parity of reasoning, how can he expect the highest market price for the rubbish of cattle which he pertinaciously perseveres in breeding or purchasing? Were cattle of no better quality to be obtained in the country, a reasonable excuse might be urged for such negligent management; but when more profitable, nay the most profitable stock can be obtained, what reasonable excuse can be tendered for the cultivation of inferior descriptions? It is true that the best breeds of cattle could not be obtained to supply a general and simultaneous demand; but were a general desire expressed for them, breeders would not be wanting to raise the necessary supply.

I cannot too frequently or too earnestly urge breeders to cultivate only the best breeds of cattle. Look around the country and see the numbers of sharp-backed, flat-ribbed, and coarse-boned beasts which are every where to be seen. Such cattle have very appropriately been termed "*razor-backs.*" These razor-backs, after they have devoured more good food than the better sorts, present nothing but masses of coarse beef. There is not a joint of meat in them to suit the customers of respectable butchers. Besides, when they are brought, say to Smithfield, to be sold, instead of drawing 4s 6d or 5s the Smithfield stone, they are bought only by butchers who take on low contracts at probably not more than 2s 6d or 3s per stone. Here, then, is a decided loss

of 2s per stone, besides having fewer stones to dispose of. This loss, it is evident, arises from breeding and feeding a bad breed, for it is impossible to feed these razor-backs with any quantity of food, and of any quality. Now, is this not a grievous loss which these breeders inflict upon themselves? and the disappointment which they incur to butchers is not less grievous. These breeders stand all day without a customer in a declining market, and have to return home with their despised cattle, or dispose them at a decided loss at the end of the market; and even in a brisk market they will be the last to be sold, and when sold they will only be purchased by unwilling butchers at reduced prices. Should such cattle return any profit at all, it will be to the dealer, and not to the breeder. The dealer may buy them at a low price in a dull, and sell them at a profit at another time in a brisk market. Such chances do sometimes happen, but they are neither safe for the buyer nor the seller. On the other hand, good beasts will improve in value as they improve in condition—and improvement of condition is a certain result on good food. But after having sold his razor-backs the breeder is probably a decided loser on them at the highest price which they can fetch. How often do we see coarse yearlings and six-quarter old cattle sold for 20s, 30s, and 40s a-piece. Now the calf was worth 5s to start with, and a calf cannot be kept alive on milk at less than 2s 6d per week, which at the end of ten weeks is 25s; and if the calf be even then sold, the whole keep will be lost; but should it be kept till it is six-quarters old and sold for 40s, this is only 10s for eighteen months' keep, however miserable the keep may have been. Can rent be paid under such wretched management? But if the rent is thus lost, and the trouble only repaid, the object of the tenant in entering into the covenants of a lease with his landlord is of course frustrated. How liberally soever the landlord may be disposed to act towards his tenant, yet, under such circumstances his liberality would be abused, for the tenant has it in his power to cultivate a profitable stock, which would enable him to pay the rent which he had agreed to pay.

It is obviously the interest of the landlord to compel the cultivation of the best breeds on his property, by the power which he possesses in forming the clauses of the lease. He may insert whatever condition he pleases in the lease, provided it is not contrary to the rules of good husbandry, and it is in the free option of the tenant to accept or reject that condition. If one tenant reject it another will accept it; and in this manner, under a general system, the tenants would be compelled to attend to the general interests of the country, by attending in the first instance to his own and the landlord's interest. The interest of landlord, tenant, and the country are thus inseparably bound up together. But it is a matter of regret that too many landlords attend more to the mere reception of the rent, than to the improving condition of their estates. Many live abroad; others are constantly employed in the gaieties of a metropolis, while some only pay an occasional visit to their paternal homes. Such a course of conduct would be well, provided it did not injure the best and most vital interest of the country, namely the agricultural. It is dangerous no doubt to prescribe in the least degree how a man ought to spend his income; but I conceive that a landed proprietor has as little right to injure the interest of the state, by neglecting the progressive improvement of his estate, as the tenant to injure the same interests, by perseverance in the cultivation of a profitless breed of cattle. Both are drones in the national hive of industry. It is true

most large proprietors have resident factors or agents on their estates, even though they themselves should be resident. Most of these factors, when they have been regularly bred to the agricultural profession, perform their duties in a becoming manner; but too many of them are lawyers, who cannot possibly know farm management, and whose appointment has most probably been recommended from only a knowledge of the subtleties of law; and most of such factors only visit the tenantry on rent-days.

The objectors to crossing recommend the maintenance of the purity of every breed, whatever pretensions the breed may have; and should a better be desired to be introduced into any particular part of the country from another quarter, instead of improving the existing breed by crossing, they recommend the transplanting of the desired breed to the situation unsuited, perhaps, to its habits and constitution. Such a horror have they at crossing, that they would transplant an existing breed rather than cross at all. Now I have stated that I would introduce the best breeds to the situations suited to their habits and constitution; and for this reason have recommended the new cross to the highest, the West Highland kyloes for the middling, and the short-horns for the pastures of the plains. It might be possible by degrees to institute the two former breeds in their respective situations by transplanting them bodily; but I conceive that the vast herds of the plains could never be substituted by short-horns by the process of transplantation. Were this slow process attempted as a general measure, the substitution could not be realized during many generations of men, instead of generations of animals. A sufficient number of short-horns could not be obtained from the districts in which they are bred for that period of time, and at the same time the natural demands of these districts be maintained. But crossing could accomplish the object in a calculated period of time. Numbers of well bred short-horn bulls could be distributed over the districts among breeders; and as one bull can serve many cows, the very first year would produce many hundreds of crosses. More bulls could be obtained for the use of the rising female stock, and by such a procedure the country would soon be furnished by females for breeding from, while the cross males could be fattened and sold off at two years old, or at most three.

Many I know entertain a doubt of the possibility of continuing the crossing after the first attempt. They allow that the first cross between a well bred short-horn bull and a cow of any other breed is excellent. I have enumerated too many good instances of this cross to admit of doubt on that point; but I entertain no doubt whatever of the successful issue of a continuation in the cross in the subsequent generations for the obtaining of a good short-horn stock. For, in what other way than by crossing was the present pure stock of short-horns obtained? The old Teeswater breed formed the basis upon which the pure short-horns were reared; but how reared? Not surely by any attempted refinement of the Teeswater breed itself,—for it was probably as good as could be; but by crossing them with the Holstein breed imported on purpose from Holland: and while attending to this subject in one of my former papers, we have reason to believe that not many generations of this cross had existed before the appearance of Hubback, the progenitor of the present race of short-horns. Having this palpable and well authenticated fact to revert to, what reasonable grounds have we to doubt that good short-horn bulls will establish a good stock of that breed every where? Were only the best females of the breed intended to be changed

selected, the conversion would soon be realized; but, even under limited circumstances, with good bulls, the conversion would be effected in time. In this sort of crossing, it is to be observed, that a pure bred male is always employed to improve the progeny of the female.

There is yet another consideration which holds out an encouragement to crossing. A good female of the breed intended to be substituted may be introduced to a good bull of the breed to be dispensed with; that is, a well bred short-horn cow may be put to a bull of another breed, and the progeny will display an improvement in many points over the bull. I once saw a remarkable instance of this kind of crossing, which was successful, and which I shall relate. About twenty years ago, Mr. Charles Heriot of Kelloe Mains, in Berwickshire, tried an experiment of crossing short-horn cows with a pure West Highland bull, of a dun colour, which he had purchased from Mr. Campbell of Islay, an eminent breeder of kyloes. The produce were most excellent cattle. I was at a sale of Mr. Heriot's stock some years after when I saw about sixty of this cross sold. The four-year-olds fetched 30*l* a-piece, and they would have weighed 70 stones each. The three-year-olds 20*l* a-piece and 55 stones in weight. He had a five-year-old ox of the same cross some time before, which he sold for 50*l*, weighing 100 stones. I shall give one other instance of crossing different from this. Colonel O'Callaghan's bull, called "O'Callaghan's Son of Bolingbroke," was got by Mr. Charles Colling's bull of Bolingbroke, out of a polled Galloway cow. This cow and another of the same breed were purchased of Mr. David Smurthwaite, near Northallerton, by Mr. George Coates, who sold them to Colonel O'Callaghan. O'Callaghan's son of Bolingbroke when a few days old became the property of Mr. Charles Collings, and was the sire of Grandson of Bolingbroke. O'Callaghan's Son and Grandson of Bolingbroke, were good bulls, and got good stock; and, indeed, had they not done so, they would not have been used by Mr. C. Collings. Here, then, are instances of good stock in the one case out of short-horn cows by a kyloe bull; and in the other by a short-horn bull out of a Galloway cow. These facts prove that crosses will succeed in any way, provided the animals crossed are good of their kind. But this species of what may be called wrong crossing, I would not recommend to be persevered in. Many mistakes have been made by less experienced breeders than Mr. C. Collings in using a bull bred as O'Callaghan's Son of Bolingbroke was; many disappointments have occurred by pursuing so ambiguous a course. I call it ambiguous, because no one can foretell the nature of the progeny of such a cross; but the nature of the progeny of a well bred short-horn bull, from a cow of any breed, can be easily foretold; it is sure to be *better* than the dam. In the case of the West Highland bull, it is to be observed that no two breeds of cattle approach in character so near one another as the kyloe and short-horn; but still the other way of breeding, namely, the short-horn bull with the kyloe cow, is to be preferred on account of the certainty of the result. This always makes a dashing cross and good feeders. The aptitude to fatten of the short-horn, is combined with the shaggy coat and hardy constitution for exposed situations of the kyloe. Any of the modes of crossing may do merely for feeding, but not for a breeding stock. Another important consideration is, that the cross of a short-horn bull never being equal to the sire, and the qualities of the sire being more impressed on the progeny than those of the dam, it is indubitable that the use of the short-horn bull may be

confidently persevered in, till the progeny, in a succession of generations, shall become equal to the sire. This kind of crossing with the short-horn bull is what I mean by *judicious crossing*; and were this system generally pursued throughout Scotland with the lowland black breeds of cattle, they would be in time transformed to good, useful short-horns profitable alike to the breeder and the feeder. The generality of cattle could then be fed off at two years old, giving a quicker return of capital to the breeder.

Towards the accomplishment of this improved state of things, no confusion need be experienced. All that the breeder would require would be to secure the use of well bred short-horn bulls, and to select the best females he has to put to him. Pursuing this course steadily there is no danger of committing any serious mistakes. He must not permit himself to keep this calf or the other for a bull, as long as his stock is only in an improving state. His time will be sufficiently occupied in rearing for breeding stock the best of his cross queys. He must curb his ambition to become a successful breeder of bulls, till he has acquired a stock of pure and high-tored blood.

There might be some danger of maintaining the purity of blood in a district after the improved stock had been generally established. The cupidity of some might impose inferior bulls upon the ignorance of others. It is in such circumstances that proprietors have it in their power to enhance the improvement of stock. Every large proprietor in the district might keep a stock of high bred short-horn cows, to breed bulls for the use of the tenants. Such bulls might be let for some years, either to be used solely by one breeder, or conjointly with others, according as breeders had sufficient stocks to employ him; and they could be returned when they became aged, and exchanged among the tenantry as their progeny became nearly related to them in blood. Terms could be made in the leases of proprietors who thus bred bulls, to oblige the tenants to use their bulls, or none worse; and even small neighbouring proprietors, who could not conveniently become breeders themselves, might be accommodated with the use of bulls for their tenants, on condition of paying a sum for hire. In short, were the desire for possessing the most profitable stock generally expressed by the tenantry, means would soon be adopted by landlords and others to satisfy the demand. The sooner the tenantry express that desire the sooner will they reach that state of independence for which they are at present daily struggling.

CHURCH RATES BILL,

RETURN TO AN ORDER OF THE HOUSE OF COMMONS,

Dated 10th March, 1837;—for

A COPY of the answers given by Mr. FINLAISON, Actuary of the National Debt Office, to Questions on the subject of Ecclesiastical Leases; with a further Memorandum on the subject; also a Note on Ecclesiastical Leases, by Mr. DRINKWATER BETHUNE. (Confidential.)

SIR—I am directed to request your written opinion on the following questions, on the subject of Ecclesiastical Leases, for the information of the Chancellor of the Exchequer.

The fines received on renewals of leases by the Bishops, Chapters, and Dignitaries in Cathedral, and Collegiate Churches, are stated in the Report of the Commissioners appointed to inquire into Ecclesiastical Revenues, at

£74,812 received by the Archbishops and Bishops
164,059 Deans and Chapters
21,760 Prebendaries

£260,631

It is also known that, of the Bishops' outstanding leases, 1,336 are granted for terms of years, 2,559 for lives.

You are requested, upon the best consideration you can give to the subject, to state your opinion on the two following points:—

1st. What, according to your experience and the best information you have procured on the subject, is the usual rate of interest on which such fines are calculated?

2ndly. From these data, and from any other information you may possess, what is your estimate of the probable rental of the Church lands, and the reversionary interest of the Church therein?

You will have the goodness to send your answer to me, under cover to the Chancellor of the Exchequer.

I have the honour to be, Sir,

Your obedient servant,

John Finlaison, Esq. ARTHUR HELTS,
National Debt Office.

ANSWERS by Mr. Finlaison, Actuary of the National Debt Office, on the subject of ECCLESIASTICAL LEASES.

Question 1.—What, according to your experience, and the best information you can procure on the subject, is the usual rate of interest on which such fines are calculated?

Answer.—I have no doubt that, upon the average, 7 per cent. is below the rate of interest allowed to tenants of Church leases on renewals. A material distinction exists in this respect between leases for years and leases for lives; also in the rates allowed by Bishops and by Deans and Chapters:—7 per cent., or two years' purchase for renewing from 14 to 21 years, may be safely assumed as below the average.

Question 2.—From these data, and any other information you may possess, what is your estimate of the probable rental of the Church lands, and the reversionary interest of the Church therein?

Answer.—I have formed such an estimate from examining the particulars of a great number of leases in various parts of England, and applying the results of that examination to the whole, I have satisfied myself that the following results cannot vary much from the truth:—

1st. The sum of £260,631, assumed as the total amount of fines, consist of £109,960 received from renewals of leases on years.

150,671 ditto ditto .. lives

£260,631

2nd. The fines received from renewals of leases for years are in respect of lands of which the rental is not less than..... £370,081

So the lands now under lease for three lives are of the annual value not less than..... 881,973
Those in lease for two lives..... 155,818
Ditto one life 197,874

Making a total rental of £1,514,746

The value of the reversions of the Church in this rental, interest being assumed at 4l per cent. is,

In the estate for years..... £4,917,291
Ditto — lives 7,700,152

£12,617,443

The interest of which, at 4l per cent., is equal to a perpetual annuity of..... £504,698

Deduct the yearly income now received in shape of fines..... 260,631

Perpetual surplus Income £244,067

JOHN FINLAISON, Actuary of the National Debt, and Government Calculator.

FURTHER MEMORANDUM from the Actuary of the National Debt Office on ECCLESIASTICAL LEASES.

In my answers to the questions sent to me by the Chancellor of the Exchequer, on the subject of Ecclesiastical Leases, I assumed 7 per cent. as the rate of interest, for the purpose of estimating the rental from the fines annually received by the Bishops and other Ecclesiastical Dignitaries, which I had no doubt was materially under the average rate. Not knowing how much of the whole £74,812, which the Bishops yearly receive as fines, was paid in respect of leases for terms, and how much in respect of lives, I was further obliged to estimate, by the method of probabilities that the fines received in respect of renewals for terms, were.. £31,563
And of those on lives 43,249

£74,812

Those two points formed the whole basis of my reasoning.

The conclusion of the whole was that the Church has, at this moment, a property in its estate equal to the yearly value of £504,698 in perpetuity from henceforward of which it receives only in the shape of fines..... 260,631

Difference..... £244,067

I have been since supplied with a most important document, being the particulars of all the leases in the see of Durham, with the estimated yearly rental of each tenure, and the fine paid when each lease was actually granted.

We have now the means of examining, in a very simple manner, the accuracy of my former estimate of the property of the Church in its present estate, on the assumption that Durham is a fair sample of the whole. One-eighth part of the fines received by the Bishops is 9,351*l.* and in the see of Durham alone, those which yearly arise are 8,746*l.* so that it is nearly an eighth of the whole episcopal estate.

But as the Bishops, by means of concurrent leases, are invested with the power of enforcing a larger amount of fines than Deans and Chapters who have no such means, it follows, that if the whole estate of the Church (including that of the Deans and Chapters) be taken as proportionate to Durham, the yearly rental so inferred will be still less than the actual one.

Among the leases in Durham, there are thirty for terms of years, and nine on lives, concerning which no report is made of the yearly value of the tenement when the lease was granted. These, with all their particulars, are omitted from the sums which I am about to mention. In all other cases the gross annual value being stated, together with the reserved rent and land-tax, I have deducted the two latter items, to show the net rental, in respect of which fines were paid. The result is as follows:—

There are,	Net Rent.	Fines.
	£. s. d.	£. s. d.
For terms of years, 277 leases	29,166 8 2½	41,401 18 6
And on three lives, 275 leases	29,220 0 0	55,670 1 7
Thus the total sum of the fines in respect of all present leases is		<u>97,072 0 0</u>

The fines returned from the Bishops as annually paid, were £74,812

Then, if they were in the same proportion as Durham, there would be in respect of terms £31,938
And of lives 42,904

But, as I have just mentioned, the proportion which I had assumed as probable, and on which my former answers were grounded, was, for terms.. 31,563
And for lives 43,429

So that it happens, that I only differ from the result shown by the leases of the Bishop of Durham, by giving the fines for terms too low, and those for lives too high, by 345*l.*; which is certainly very little, in the distribution of 74,812*l.*

Including the Chapters, I had by proportion assumed

for the whole estate of the Church that the fines for terms are, 109,960
And for lives 159,671

Total..... 260,631

But in proportion to Durham they would be for terms 111,161
And for lives 149,470

Now the Bishops' leases, stated to be now outstanding are:—

For terms of years..... 1,336 in number.
And on lives 2,559
Then, as in Durham, 277 leases for terms had a net rental of £ 29,166 8 2
1,336 should be under a rental of .. 140,672 13 0
And as 275 leases on the lives are found to be in respect of a rent of .. 29,220 0 0
So 2,559 such leases would be under a rental of..... 271,905 7 8
And those twotwitem should, if all the Bishops' rental were similar to Durham, be the yearly net rent of the episcopal estate, viz:—

	Yearly Fines. now payable.	In respect of a Rental.
For renewing leases for terms.....	£31,908	£140,672 13 0
For renewing those on lives	42,904	271,905 7 8
	So that, including the Chapters, when the fines are	The net rental will, by proportion, be
For leases on terms And on leases for lives.....	£111,161 149,470	£490,075 947,270
Total present rental, if the whole be similar to Durham		<u>1,437,345</u>

The rental which I had inferred, by the method of probabilities, was 1,514,646*l.*

It will appear below, that the excess in my estimate of the rental is more than compensated by an excess in the estimate of the value of the tenants' interest therein, by taking the average term of the subsisting leases too high.

I valued the interest of the tenants and church respectively, in their present leases for years, on the basis that land in fee-simple is worth only 25 years' purchase. It is almost certain that the Church has a property in this class of leases worth 1,328,707 years' purchase of the rental.

In like manner I valued the interest of the tenants and Church respectively, in the leases for lives, on the same basis, and found the property of the Church to be 6,726,991 years' purchase of the rental which respects that class of leases.

Then the present value of the property which the Church now has in a rental let for years

Of 490,075*l.* is equal to 6,511,655*l.*
And in that under lives, of 947,270*l.*..... 6,372,177*l.*

Total..... 12,883,832*l.*

The interest of which at 4 per cent is.... 515,353*l.*
Then deducting the income now received
as fines..... 260,631*l.*

The surplus is equal to a perpetual annuity of 254,722*l.*

I have above stated that, by my previous investigations, this surplus was calculated at 244,067*l.*

This close coincidence, like that already noticed in the distribution of the fines between the two classes of leases, is very remarkable.

All this reasoning is exceedingly simple; there is no proposition which is at all questionable, except the single point whether the Church has so much property in the rental of the estate for lives as 6,726,991 years' purchase, which infers the tenants' property, one with another, to be worth 18,273,009 years' purchase.

I will show immediately that in Durham the lives are older than in any of the leases used in the former calculation, and that the Church has therefore a greater property in the estate leased for lives than is above set forth.

The ages of the lives in each lease in Durham being given, a calculation has been very carefully made of the probable number of renewals, which, according to the law of mortality of the Government tables would be necessary in the course of one year, that number out of 275 leases is 2:328965.

Then the average probability of each lease being subject to a fine in the course of one year at Durham, is the fraction .0848696.

The corresponding probability in the 191 leases on which I had grounded my former calculation, is the fraction .0610133.

So that 275 of these leases would produce in the first year 1677866 renewals, that is to say, not so many as seventeen fines, whilst in Durham there would be more than 23. Thus it is evident that the lives in the Durham leases are older than those of the others which I have examined; and, therefore, the property of the Church in the rental subject to this class of leases, is greater than 6.727 years' purchase, which was the result deduced from an examination of those others.

In the next place, it is to be observed, that the leases in Durham were, in many instances, granted a long time ago, and there is little room for doubt that the rental on which the tenant in those days confessed himself liable to pay a fine, is much below the true rental at present.

The 275 Durham leases were granted in the following order:—1 year ago, 15 leases; 2 years ago, 21 leases; 3 years ago, 11 leases; 4 years ago, 12 leases; 5 years ago, 22 leases; 6 years ago, 15 leases; 7 years ago, 2 leases; 8 years ago, 12 leases; 9 years ago, 12 leases; 10 years ago, 13 leases; 11 years ago, 16 leases; 12 years ago, 21 leases; 13 years ago, 15 leases; 14 years ago, 8 leases; 15 and under 20 years ago, 16 leases; 20 and under 25 years ago, 23 leases; 25 and under 30 years ago, 16 leases; 30 and under 35 years ago, 8 leases; 35 and under 40 years ago, 7 leases; 40 and under 47 years ago, 10 leases; total, 275 leases.

But in the foregoing calculation of the rental from the Durham leases, no allowance is made for any suppressed rental. That which was stated as the annual value of each tenure, when the lease was granted, has been treated as the rack rent at the present day.

Lastly, when from among the whole of the leases for terms of years at Durham, we select those only which were renewed from a term of fourteen years to a term of twenty-one years.

	£	s.	d.
We find that for all such leases the fines were.....	38,745	13	9
And that the net rental in respect of which such fines were paid is stated at.....	25,289	7	1
Therefore, the average fine received was 1.53209 years' purchase of the rent.			

Now, when the interest of money is 9 per cent, the proper fine to be allowed for such a renewal is 1.566 years purchase.

Therefore, without going into the question of suppressed rental, the leases in Durham have been renewed on the principle of raising money at very nearly 9 per cent. In my former answers I assumed the rate of 7 per cent, as below the average.

JOHN FINLAISON,
Actuary of the National Debt, and Government Calculator.

NOTE ON ECCLESIASTICAL LEASES, BY MR. DRINKWATER BETHUNE.

“The ingenious calculations submitted to the Chancellor of the Exchequer, on the subject of Ecclesiastical Leases, by Mr. Finlaison, rest upon principles the truth of which will not be easily appreciated by those who are not familiar with such considerations. I have endeavoured, in the following remarks, to reduce the cal-

culatation to the simplest possible form, in which accuracy of assumption has been unavoidably sacrificed in some degree to ensure facility of explanation.

“The average yearly amount of fines received by the Archbishops, Bishops, and Chapters, is about 261,000*l*. These arise partly from renewals of leases on lives, partly from renewals of leases on years. In order to calculate thence accurately, the value of the interest which the church has in the lands comprised in these leases (beyond the reserved rents) it would be necessary to know the actual term consisting in each lease, the fine separately received on each renewal of it, and the rate of interest on which that renewal was calculated. These three data would enable us to calculate the rack-rent of the lands comprised in each lease, and deducting from that the value of the tenant's interest, the remainder would show the interest possessed by the church. The same thing may be done with tolerable accuracy by assuming an average term of all the leases, and an uniform rate of interest.

“From the best information which has yet been procured on the subject, we shall make a supposition less favourable to the proposed plan than the truth, by assuming the common term to be of 24 years, and the rate of interest 7 per cent, which rate is equivalent to taking two years' purchase for the renewal of a lease from 14 to 21 years.

“Calculations have been made in much greater detail than this, and this term of 24 years has been fixed on for facility of explanation, from knowing beforehand the results of those more accurate estimates.

“Assuming these numbers, it is plain that, if this supposed lease of twenty-four years were suffered to expire, the church would receive no fines in the interval, but would, at the end of that term, come into possession of the whole estate, which it would possess thenceforward in perpetuity.

“The average annual amount of fine received, which, on the system of perpetual renewal now practised, is, in fact, a perpetual annuity equal to the rental of the estate, deferred for twenty-four years, the rate of interest being taken at 7 per cent.

“The first question, therefore, is,—‘What perpetual annuity, deferred for twenty-four years, is of the same value as a perpetual annuity in possession of 261,000*l*, the rate of interest being taken at 7 per cent?’

$$\text{Log. } 1.07 = .02938$$

24

$$.70512 = \text{Log. } 5.07$$

That is to say: 1*l* in hand is of the same value, at 7 per cent, as 5*l* 1*s* 5*d*, twenty-four years hence. The same proportion holds true of each successive annual payment of both annuities. Therefore, an annuity of 261,000 in hand is of the same value, at 7 per cent, as an annuity of 1,323,000 deferred for twenty-four years. This, therefore, is the rental of the Church Lands, on the foregoing suppositions.

“The second question is, ‘What would be the value of the interest of the church in these estates, if their reversion could be turned into possession at 4 per cent instead of 7 per cent?’ For this, it is only necessary to reverse the process just gone through, at the altered rate of interest.

$$\frac{1}{\text{Log. } 1.04} = 1.98297$$

24

$$1.59128 = \text{Log. } 39.$$

That is to say, 1*l* to be received 24 years hence, is worth 7*s* 9*d* in hand, the rate of interest being 4 per cent. Therefore, an annuity of 1,323,000*l* deferred for 24 years, is of the same value, at 4 per cent, as an annuity of £516,000 in present possession. The fines now received are 261,000

Which leaves an available surplus of £255,000

“J. E. DRINKWATER BETHUNE.
“Home Office Chambers, 25th February, 1837.”

CONDITION OF THE HUNTER— WINTERING.

MR. EDITOR,—The management of the horse, unlike the problems of Euclid, being insusceptible of mathematical demonstration, has experienced all those changes which fancy suggested, or which incident or adventitious circumstances presented to the whim, the caprice, or the reasoning faculties of human nature; and, strange as it may appear, the very opposites of each other, have been employed for the attainment of the same purpose, means adopted for the removal of the same complaint as much at variance as possible—as adverse or contrary as the antipodes. Thus, at one period a “summer’s run” was recommended as the best method of re-invigorating the constitution of a horse, which had become debilitated from acute or lingering disease, or from overstrained exertion, accompanied, perhaps, by indifferent or bad food; while, at another time, a “winter’s run” was regarded as the sovereign specific, or the most eligible and the best mode of attaining the same object. Abstractedly considered, they are both wrong.

The influence of warmth on organic life, generally speaking, has an evident tendency to encourage growth, and consequently to increase bulk, as may be perceived in numerous individual instances, as well as in the general aspect of nature presented and contrasted in warm and cold latitudes; and it is only an excess of heat which produces a degree of debilitating relaxation; which we see exemplified when the European, removed from his native abode, languishes beneath the intense heat of the torrid zone; but we see, at the same time, that, while the white man is thus oppressed by the overpowering preponderance of the solar rays, the negro experiences not the least inconvenience from it.

If, therefore, warmth tends to the growth of organic life, it follows that it contributes to its invigoration also. This throws again in my way, the inconsiderately received notion, that “heat certainly relaxes muscular fibre; a cool atmosphere gives tone.” This doctrine, founded upon thoughtless and presumptuous ignorance, is directly opposed to the unerring principles of nature, as well as to the infinity of incontestable facts which are scattered around us, and which uniformly present themselves in every part of the known world. Warmth is indispensable to the growth and beautiful proportions of animal life; or, why does not the short, squat, deformed, and dwarfish Laplander, and the almost equally small and ugly inhabitant of the icy regions of America, attain the pre-eminent altitude, elegant symmetry, and beautiful harmony of proportion, which are so conspicuous in the Patagonian! And, as a further proof that the greatest degree of solar warmth is infinitely more congenial to animated nature

than the chilling operation of the frigid zone, we find that the almost scorching heat of the line, so far from being inimical to organic life, affords the most stupendous specimens of its genial influence upon it: while, if we turn our attention to the poles, not only does the position become reversed, but we find that the atmosphere of these parts, gloomy and terrific beyond comparison, is incompatible with animal existence. Place a native of the British Isles beneath the solar rays of the Island of St. Thomas, and he will not only exist, but enjoy good health: subject him to the operation of the frigid zone, and he will expire. Further, if we take a peep at the vegetable kingdom, we shall find, that, while the greatest degree of heat experienced on the surface of the globe produces the most luxuriant, the most ponderous, and the largest specimens of vegetative life, no plant can exist in the drear and icy atmosphere of the poles. Since, then, warmth cherishes life, and cold destroys it (a fact too evident to admit of dispute) what can be more ridiculous, more preposterously absurd, than to assert, that “heat certainly relaxes muscular fibre; a cool atmosphere gives tone!”

Having proceeded to a greater extent than I originally intended in collateral elucidation, I will return to the more immediate subject of the present communication. If I had a horse reduced to the state of debility noticed in the early part of this article, inasmuch as warmth is more congenial to his nature than cold, I should give a decided preference to a “summer’s run,” compared with turning out for the winter. But, neither the one nor the other will answer the object in view, unless assisted by the requisite food, and that degree of human attention which the domestication of the animal, and the peculiar nature of the case, may render necessary. Rest constitutes the essential element in the curative compound; and, when assisted in the manner already noticed, will not fail to effect that re-invigoration which the debilitated state of the animal imperiously demands:—infinitely better in summer, however, than when the creature is subjected to the humid, cold, and freezing atmosphere of the opposite period of the year.

Let us examine the nature and quality of that “tone which a cool atmosphere gives to muscular fibre.” Muscular fibre shrinks from the contact of cold; and if by tone, we are to understand contraction, I have nothing to urge against it, but the clumsy manner in which the idea (crude enough certainly is attempted to be imaged to the mind; but, if by tone, strength is meant to be implied, I hesitate not to dissent from such an incongruous association. Not only will the “muscular fibre” shrink from the contact of cold, but the tendon also: and to assert that this shrinking gives tone, if we are to understand the word to imply strength, is too great an absurdity to need further refutation.

Yet, has a “winter’s run” been a favourite

idea ; and though the notion may have become less prevalent than what it was a few years ago, it is not altogether exploded. Eight years since, I journeyed to the mountains of the north of England in the month of August, for the purpose of enjoying the most interesting diversion which the dog and gun are capable of imparting, grouse shooting. I had with me a fine grey mare, something more than fifteen hands three inches in height, a splendid creature across a country, and perhaps the best timber jumper I ever possessed. I took up my temporary abode at a farm house on the Newsham side of Stainmoor, on the 11th of the month just mentioned, and on the following day met several Yorkshire gentlemen at the same place, amongst whom was a Mr. Thompson (a military officer on half-pay) who, like his countrymen, was a great admirer of horse-flesh. My mare attracted his attention, particularly from the following circumstance:—she had been turned into a small inclosure near the house ; and, either alarmed at the flashing of the guns, or from dislike to her accommodations, she altered her situation by jumping a very tall narrow gate (nearly if not quite six feet in height) placed in a high stone wall, separating one inclosure from another. The animal did not exhibit that blooming appearance of health so pleasingly satisfactory to a sportsman ; for having been overmarked several times during the preceding winter, she had not completely recovered the requisite vigorous *tone*, though some months had elapsed. The mischief principally arose from a distressing day with the Badsworth hounds. On this occasion, the fox was found in a wood called Acton Pasture, three miles from Pontefract. Renard hung to the cover as long as he could, and when he went away he gave us as pretty and as interesting a run as I ever witnessed, for three quarters of an hour:—for this period, indeed, it was brilliant ; when the hounds were brought to hunting, and ultimately picked a cool scent to Stapylton Park (the residence of Mr. Petre, celebrated as the winner of the Doncaster St. Leger three years in succession) ; as we approached this place, Sir Edward Smith Dodsworth observed, “ he’s going for a country to save himself :” and so it proved : we changed : and as it generally happens under such circumstances, a fresh fox experiences little difficulty in beating half-tired hounds. He gave us a slow run, however, through a heavy, laborious country ; yet the huntsman (Jack Richards*, and a superior huntsman is, perhaps, not to be found in the King’s dominions) persevered till by the near approach of night, he was constrained to call off.

* Jack Richards and Will. Staples, unquestionably two of the best huntsmen in England, are also two of the heaviest : they ride about thirteen stone each. The former still hunts the Badsworth, the latter the Shropshire, they both whipped-in to Sir Bellingham Graham.—*Richards died several years since.* Ed.

My mare, though in a state of progressive improvement when she fell under the observation of Mr. Thompson, was far from the mark of condition, nor indeed was her appearance indicative of that progressive state which seems to promise its attainment by the arrival of the hunting season. My very worthy and well-meaning friend, Mr. Thompson, strenuously recommended a “ winter’s run,” either in the park, the paddock, or the straw-yard. Having already given my opinion of the influence of the atmosphere upon the animal system, it is only necessary further to state, that place the debilitated creature in either of the three situations just mentioned, and you expose her, destitute of nutritious food, to the chilling and highly injurious influence of frost and snow, frequently accompanied with the “ pitiless pelting” of the hyperborean storm. There are some diseases of the legs and feet to which this “ winter’s run,” might perhaps be beneficial (which, however, would derive greater benefit from different treatment) ; but, constitutionally, the animal would come up worse than it went out.

If, however, a “ winter’s run” should be resorted to, if a field be chosen for the purpose, there ought to be provided the shelter of a well-thatched shed, in which the horse might find protection from the very severe inclemencies of the weather, and in which he might eat two or three good feeds of corn daily.

I should prefer the straw-yard to the field, on account of its being less exposed to the weather, never forgetting, however, that good food, and plenty of it, are as essential to re-invigoration as rest ; and, therefore, although the horse might amuse himself for hours with pea-straw, he should not lack a judicious supply of good beans and oats.

I know not upon what principle the ancients selected the serpent as the emblem of wisdom, since mental power or animal sagacity will be uniformly found analogous to form ; and, therefore, where we find superior organization, we may confidently anticipate a degree of intellect or cunning in precise proportion ; or, as a phrenologist would express it, where cerebral development is large, mental manifestation will be commensurate : and it is an incontrovertible fact, that the more elaborately beautiful the animal machine, the greater the intellectual capacity will be found. Therefore, at that period of the world, when a grovelling reptile was understood as a personification of extraordinary cunning or mental perfection, it evinced the gross ignorance of the time as to the true elements and correct principles of natural philosophy ; since the serpent, as in its form or organization, it presents one of the lowest (as well as one of the most hideous) grades of animated nature, so is it destitute, or as nearly so as possible, of any quality approaching to sagacity ; it is merely actuated by

those direct and simple impulses, the calls of hunger, and procreative approximation. What in human nature is impressively understood by the term *intellectual capacity*, in the brute creation is designated by the much more humble appellation *instinct*; and correctly so too; for, notwithstanding the extraordinary sagacity which we sometimes witness in the quadrumanous and the quadrupedal tribes, it sinks into nothingness compared with the almost divine intelligence of the loftiest specimen of creation.

On the score of animal sagacity, the horse, though inferior to the elephant and the canine tribe, is, nevertheless remarkable for his susceptibility of education, as well as for his unparalleled utility; and, in consequence of this interesting pliability of disposition, he has, by the ingenuity and invincible perseverance of his human protector, experienced a greater degree of alteration or improvement than any other animal. Therefore, in whatever relates to this most elegant and most noble quadruped, we should steadily keep in mind, not his original simplicity, or pristine purity, but the state to which he has been gradually impelled by the superior art and multifarious contrivances of man.

Stable management is simple enough as regards horses used for agricultural purposes, but where the *pace* is required, the business assumes a very different aspect. Moreover, the view which I purpose to take of this subject, will be found much more comprehensive than what a superficial glance at it might seem to indicate; for, as I consider the business of the groom to include, not only a mere routine of labour, but the general administration of physic, bleeding, and the management of a number of well understood and obvious diseases incident to the horse, a detailed elucidatory notice of them becomes legitimately necessary in this place. Exercise, as essential as food to the condition of the hunter, I have never seen explained with sufficient dissection or analogous illustration to satisfy the inquiring mind, or with that philosophical demonstration which so highly an important subject imperiously demands. These matters, as well as several minor considerations, which will be presented in the course of proceeding under this head, will most likely swell the whole beyond the limit of a single letter or communication; and therefore, in order to place my ideas in the clearest light possible before the eyes of the reader, I have adopted a simple sectional arrangement, in order to avoid that complexity, if not confusion, which could scarcely fail to arise from any attempt at aggregate description.

The preliminary subject which presents itself for consideration is, that as the horse is remarkable for cleanliness, as well as for the acuteness of his olfactory organs or powers of smell, every thing approaching to filthiness should be assiduously prevented; the manger regularly washed with soap and water,

and wiped perfectly dry, to prevent any unpleasant smell in or near the animal's corn, by which a delicate or shy feeder in particular will be more likely to eat. Let it never be forgotten that cleanliness is as essential to the health of the horse as to that of his master: and I will here candidly acknowledge that I scarcely ever entered a hunting stable with which I had not every reason to be perfectly satisfied in this respect.

One of the first objects of the groom's attention should be to make himself acquainted with the temper, disposition, and constitution of the horses placed under his care, and vary his treatment accordingly,

The stable should be visited at six o'clock in the morning—in summer rather earlier. The first operation should be to feed, after having of course ascertained that none of the horses are loose, cast, &c. The horse should have but little hay* given him at a time, in order that he may eat it clean up. If a horse be abundantly supplied with corn, he will not eat much hay; and a hunter can scarcely receive too much of the former so long as he eats it with a good appetite.

The stable should be cleaned up, the horses merely brushed over, and taken out for exercise. The most open and airy places are the best calculated for the purpose just mentioned, on turf, and if upon that description of elastic turf met with on the dry parts of the moorlands, nothing can be better.

The horse may be watered on his way home, if convenient, care being taken, however that he is perfectly cool; when he may be trotted to the stable. He should now be thoroughly cleaned, another feed of corn given him, the stable set fair and locked up.

At noon the horse should receive another good feed of corn, as well as a little hay, set the stable fair and leave it till about four o'clock, when the horse should be allowed as much water as he will drink, after having been brushed over for the purpose of clearing away the dust from his coat, which is continually arising from insensible perspiration, as well as to quicken the circulation of the blood, and consequently to refresh the animal. Give him another feed of corn, and leave him till about eight o'clock, when the business of the day should conclude. He should be made comfortable for the night: his rack replenished, his litter put in proper form, and another feed of corn given him.

The above sketch of the general routine of the business of the stable, though substantially correct, must be varied according to circumstances, hereafter to be noticed. For instance, it will often happen during the hunting season, that the horses do not reach home till too late a period to enable the groom to finish the

* Hay continues to lose weight after it has become six months old; and as this evaporation consists entirely of the candied succulency or nutritious quality of the hay, it must become worse precisely in proportion to the extent of the said evaporation.

day in the regular systematic manner described above; delicate or shy feeders, as well as a variety of unforeseen incidents, will necessarily cause digressions.

A hunter generally returns from the fatigues of the day covered with sweat and dry dirt, and also with an empty stomach: upon arriving at the stable, therefore, plenty of thin oatmeal gruel should be given him, when I would place before him a feed of corn in the manger, and a little hay in the rack; the operation of cleaning should commence as soon as possible. His legs should be well washed in warm water, carefully examined for thorns, over-reaches, &c., rubbed dry, and well hand rubbed for the purpose of promoting a free circulation of the blood in those parts so far removed from the heart; and I can scarcely help thinking that, where the legs have been brought to a proper state by the means just described, bandaging them (so prevalent a custom of late years) is injurious rather than otherwise; that, in fact, it rather retards than accelerates the circulation of the blood. Let us consider the philosophy of the matter. The hunter returns from the chase in a state of weariness or perhaps exhaustion; and, as he becomes cool the circulation of the blood becomes slower, particularly in the extremities (being furthest from the fountain, the heart) where it would ultimately cease to circulate, were means not taken to prevent the cessation of this indispensable motion of the vital fluid; in which case the animal's legs would swell, and very serious consequences could scarcely fail to ensue. Now, the object is to prevent a languid circulation; and the only moot or debateable point is, the most eligible and the best method of accomplishing it; and I am of opinion, that when, by the warm friction of the human hand, the horse's legs have attained the requisite degree of heat (the animal being already made comfortable in every other respect) flannel ligatures must tend rather to retard the circulation than to promote it. The bandaging system is very likely to be a favourite with grooms and stable helpers, as considerable laborious exertion is avoided by it—by making the flannel ligatures substitute for hand rubbing.

As soon as the horse has been made comfortable, in every respect, he should be allowed to drink as much water as he chooses, after it has so far received the influence of heat as to be what is called chilled. Another feed of corn should be given him, hay put in his rack, he should be plentifully littered, and locked up for the night.

It may frequently happen that the horse will require a warm mash, on account of a trifling cold perhaps; a circumstance which must be left to the discretion of the groom or the master. The next morning an hour's slow exercise will be sufficient for him; and, if all be right, and the animal constitutionally vigorous, he will be ready to go out again in three days, though no absolute rule can be

laid down in this respect, owing to a variety of incidental circumstances upon which no calculation can be formed.

T. B. J.

P. S. When the horse goes out with the hounds, he should receive a small feed only of corn early in the morning, and afterwards be allowed a few swallows of water.

FERRET.

This animal, which is a sort of domestic in Europe, was said to be originally brought from Africa into Spain, which being a country abounding in rabbits, required an animal of this kind more than any other: however this be, it is not to be found, except in a domestic state, and it is chiefly kept tame for the purposes of the warren.

The ferret is about one foot long, being four inches longer than the weasel. It resembles that animal in the slenderness of its body, and the shortness of its legs, but its nose is sharper, and its body more slender in proportion to its length. The ferret is commonly of a cream colour, but there are others of a dark chocolate, which ignorant people assert are the offspring of the polecat and the ferret.

As this animal is a native of the torrid zone so it cannot bear the rigours of our climate without care and shelter, and it generally repays the trouble of its keeping by its great utility in the warren. It is naturally such an enemy of the rabbit kind, that if a dead rabbit be presented to a young ferret, although it has never seen one before, it instantly attacks and bites it with an appearance of rapacity. If the rabbit be living, the ferret is still more eager, seizes it by the neck, winds itself round it, and continues to suck its blood till it be satiated.

The female of the species is usually less than the male, whom she seeks with great ardour. They are usually kept in boxes or pens, and plentifully supplied with straw or other materials of which to make themselves a warm bed, which serves to defend them from the rigour of the climate. They sleep almost continually, and the instant they are awake they seem eager for food. They are usually fed with bread and milk. They breed twice a year, and some of them devour their young as soon as brought forth. Their number is usually from five to six in a litter.

Upon the whole, this is an useful, but a disagreeable and offensive animal; its scent is fetid, its nature voracious; it is tame, without any attachment, and such is its appetite for blood that it has been known to attack and kill children in the cradle. It is easily irritated, and although at all times its smell is very offensive, it then is much more so, and its bite is very difficult of cure.

The ferret is principally bred by warreners and rat catchers, and in the pursuit of rats

and rabbits it will encounter any difficulty or danger when once put upon the scent. It has a natural and instinctive propensity for burrowing, and wherever the head can enter the body will follow. Whenever the ferret has secured the prey he is in pursuit of, he extracts the blood with uncommon eagerness by suction, but seems indifferent to the flesh. When used in warrens their mouths are sewed up, that they may alarm the rabbits, and drive them from the burrows to the nets, without being able to seize them; as, if they were enabled to seize them under ground, they would with difficulty be got again from the burrows. When they are used for the purpose of rat catching they are put into the holes, and if there are any rats in the neighbourhood they will soon be seen scampering away from their most dreaded enemy. Terriers are stationed at the mouth of the holes to receive the rats, and the latter will sooner encounter every danger, and face dogs or men or both than wait for the ferret. If the ferret happens to seize one in the hole it immediately sucks the blood, goes to sleep, and the owner will have many hours to wait before he is able again to obtain his ferret.

Experienced warreners, however, seldom make use of a ferret, but prefer taking the rabbits with hay nets; as where the ferret is used, it gives the rabbits a dislike to the burrows for a long time afterwards.

VALUE OF A WILLOW.—The importance of the willow to man has been recognised from the earliest ages; and ropes and baskets made from willow twigs were probably among the very first of human manufactures, in countries where these trees abound. The Romans used their twigs for binding their vines and tying their reeds in bundles, and made all sorts of baskets of them. A crop of willows was considered so valuable in the time of Cato, that he ranks the salicium, or willow field, next in value to the vineyard and the garden. In France the leaves, whether in a green or dried state, are considered the very best food for cows and goats; and horses, in some places, are fed entirely on them, from the end of August till November. Horses so fed, it is stated, will travel 20 leagues a day without being fatigued. In the north of Sweden and Norway, and in Lapland, the inner bark is kiln-dried and ground for the purpose of mixing with oatmeal in years of scarcity. The bark of the willow, and also the leaves, are astringent; and the bark of most sorts may be employed in tanning.—*Arboretum Britannicum.*

SPADE HUSBANDRY.—Mr. John Gedney, near Harleston, Norfolk, has all this winter, except whilst the land was covered with snow, employed seven men in digging 100 acres, which is even now too wet to plough, but by digging, it is ready to be sown, which he anticipates will prove very advantageous to him. The price he pays for digging is 2½d per rod, 12 inches deep; and the men can earn at this rate 2s 4d a day, even in these short days; when the wages of able bodied men by the week, are 9s; other farmers are also trying digging in the same neighbourhood. Mr. James Pagden, tenant of the Earl of Burlington, has also kindly employed men at spade husbandry, and stated in note, Feb. 3d, that the "work is performed very much to his satisfaction."

THE NEW POOR LAW.

Subjoined are the opinions of some of the guardians who have assiduously attended to the administration of the new law:—

Mr. Allnutt, of Sutton Courtney, says—

"Since the introduction of the new system of Poor Laws, a most beneficial change has taken place in our parish. Before, we had a heavy surplus population; this has nearly disappeared; the labourers will not accept relief in the workhouse, and will strain every nerve to keep out. Generally the character of the labourers is greatly improved. I think the masters, too, are more considerate to the men than they used to be."

The Rev. C. Dodson, Chairman of the Andover Union, says—

"The old and infirm are equally as well taken care of as under the previous system. But, in addition to the advantages which it has conferred upon the poor, it has been equally advantageous to the moral feeling of those who are more fortunately circumstanced. I hear from all quarters that the current of private charity never ran so clear and unobstructed."

Mr. Love, Chairman of the Sevenoaks Union, says—

"The New Poor Law has been productive of a greater degree of moral as well as pecuniary benefit than the most sanguine among us anticipated; in fact, such is the judgment of those who in the first instance evinced the greatest hostility to the measure."

Langham Rokeby, Esq., Chairman of the Market Harborough Union says—

"There is a very general increase in the habits of industry among the labouring classes. In most parishes the moral character of the poor is improving. Cases of bastardy are on the decline."

Mr. Thos. Godrich, farmer and tanner, Bradfield, says—

"Since the foundation of the Union, good labourers have been better off than the inferior; it never used to be so. The effect of this must be to raise the moral character of the whole of the agricultural population. The labourers are certainly more industrious, and a very different race of people from what they were altogether."

Mr. G. Godfrey, of Basildon, says—

"The whole agricultural population is improving now."

The Chairman of the Eastry Union, says—

"The law is rising in estimation, more particularly among the working classes. As it regards the real poor, their condition under the new workhouse regulations is improved; their diet, their comforts, and accommodations are better; they are more robust and healthy."

John Duffell, publican, Long Crendon, says—

"I do not draw half so much beer as I did before the Union; but I have 16 acres of land, and I last year paid but 6s instead of 20s poor-rate per acre."

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—In the year 1834 I tried the Italian Rye grass upon my farm, upon a moderate soil by the side of Pacey's Rye grass; these were both sown in the latter part of March, each upon two acres of land, and as perhaps the value of the former is not generally known to the agricultural world, I have only a few remarks to make if you consider them worth insertion in your publication. In the year 1835, I let them both remain for hay, and commenced making as early as May; they were both excellent crops and well got up, and to my astonishment, as well as my men, the Italian Rye grass yielded over and above the Pacey's 15 cwt per acre, and produced most excellent hay. I then continued to feed it until the end of October, and the following summer I again let it remain for hay, and the produce was just double that of any other which I cut during that season, I have also tried several experiments with the Fescues, Foxtail, and other better kinds of grasses, that I would recommend in every instance where you are laying down for permanent pastures, that a good selection of the better kinds should be used; the advantage to the grazier I am convinced is equivalent to fully fifty per cent. in quality of the pastures as well as quantity.

I am, your most obedient servant,

A KENT FARMER.

TITHE COMMUTATION.

The large and important suburban parish of Camberwell agreed, on the 5th inst., to commute its tithes under the new act, at a meeting which did not last an hour and a half. As the proceedings of this parish were conducted with much judgment, they will probably serve as a useful model in other cases.

At a preliminary meeting held on the 1st of February statements were made of the average amount of vicarial and rectorial tithe during the seven years preceding 1835, and a small committee of the parishioners were appointed to examine, and, if necessary, to correct those statements.

At the meeting held yesterday the report of that committee was presented. It appeared that the average receipts of the vicarial tithes were 1,188*l*; the average receipts for rectorial tithe 80*l*. It was proposed by the agent of the vicar that his future rent-charge should be 1,168*l*; on the part of the rector that his future rent-charge should be 80*l*. The offer of the rector was at once accepted; but the committee formally appointed were called on to express to the meeting their opinion as to the sum which should be offered to the vicar. They stated their opinion to be that 1,100*l* a year should be offered to him. The agent of the vicar requested that they would state the grounds on which they proposed a rent-charge less by 68*l* than the average receipts of the seven years preceding 1835. Those gentlemen stated their reason for the proposed deduction to be that the vicar's income had been gradually decreasing during the whole of that seven years; that 1,100*l* was more than the average of the last two years' receipts. They further stated that Camberwell was a parish in which extensive building operations were likely to take place, and that the result of these, if the commutation were now effected, would be that the vicar would hereafter receive tithe from land covered with houses, as well as fees and other dues from the inhabitants of those houses. The agent of the vicar still urged that the average receipts of the seven years preceding 1835 ought to determine the amount of the rent-charge, and appealed to one of the chief tithe commissioners, who was present, to know if the commissioners would not adopt that amount if the commutation were left to be settled under the compulsory operation of the tithe act.

The commissioner (the Rev. R. Jones) stated that this would be the case in the first instance; but reminded

the parties that the tithe-payers would have a right to appeal, and that on appeal the rent-charge might be either increased or decreased by one-fifth of the amount of the previous compositions.

The meeting then unanimously resolved, that the sum of 1,100*l* a year should be offered to the vicar as a rent-charge, and the agent of the vicar at once accepted that offer.

The commissioner expressed his entire approbation of the arrangement, and the meeting, after signing minutes which recorded their acquiescence in it, adjourned for a few weeks, during which time it was understood that a more formal instrument of agreement should be prepared, and likewise the schedules which the act requires to be annexed—a document which it was stated it would take some little time and trouble to complete.

Mr. Moore, of Basing-lane, Bread-street, was in the chair, and thanks were voted to him by the meeting.

Mr. Driver, the eminent land-surveyor, was present; and Messrs. Druce, of Billiter-square, who represented the important interest of Dulwich-college. Mr. Martin Nockolds represented the vicar, the Rev. J. G. Storie; and Mr. Robert Cantwell, the lay-rector, Sir John Smythe.

Several highly respectable parties were present, who stated they had no direct interest in the transaction, but came solely that they might observe and be instructed by the proceedings.

THE CUP POTATO.—It will not be denied that this is a matter of considerable importance to the public—since this species of potato occupies both field and market, to the almost total exclusion of other sorts. Its good qualities have thus gradually brought it into general use; while it is to be lamented that few farmers have taken pains to correct the bad properties that belong to it. It is not liable to be injured by the vicissitudes of an uncertain season. It has a stout strong stalk, which, in a great measure protects it from high winds; and the early frosts, in Autumn, do not seize hold on it as soon as other kinds. It is also, generally speaking, a dry potato, and firm, keeping well till late in the ensuing season. But, to counterbalance these advantages, it is strong, coarse, and rank in its flavour, so that many people much dislike it. The following mode of cultivation will entirely remove this, and make this useful species still more valuable:—The careful farmer must begin with the selection of the seed. Let him reject all those potatoes that are oblong, mis-shapen in any way, over large, or rough and scabby on the skin. Let him choose those that are round, and of a plump appearance. The long and mis-shapen ones are invariably rank, and strong in the taste. The selected seed should then be planted, whether in beds or drills, on a compost of lime and soil. The Cup Potato should never be planted on stable or byre manure, as it renders it so rank as to be nearly unfit to eat. If the farmer has neither a bank from which to draw soil, nor time to make one, a little lime, sprinkled along the bottom of the drill, before planting the seed, will do nearly as well. The stable manure will thus be spared for other kinds of potato, with which it will better agree; or for the rearing of winter green crops—a part of good farming management too much neglected. This method, if carefully followed for two or three seasons, will (as I can testify from experience) produce so great an improvement in quality and flavour, as to make this species as acceptable on the table as the apple, or any other potato in use.—*Correspondent of the Newry Telegraph*

THE CORN LAWS.

[The debate upon Mr. Clay's motion for an alteration of the Corn Laws, containing much useful information, we have given it at length; moreover, it is highly desirable that the agriculturists should be put in possession of the arguments upon which a change, which would so materially affect their interests, is based.—Ed. F. M.]

Mr. CLAY, on presenting his petition, spoke as follows:—Sir, in rising to make the motion of which I gave notice, I venture to remind the house that I have at least this claim on its indulgence—viz., that I have twice postponed my motion from motives of respect for the House, and regard for its convenience. First, in 1835, in order that I might not impede the progress of the English municipal corporation reform bill—and secondly, last session, in consequence of the appointment of a committee to inquire into the state of agriculture. It appeared to me that I should be wanting in the respect due both to this House and to the large classes of the community interested in the result of that inquiry, if, during the sitting of the committee, I had pressed my motion. I feel that I have been rewarded for this forbearance by the valuable illustrations which the evidence given to that committee affords of the working of our present system. I shall only further premise that it will be my endeavour to treat the great question which my motion raises—a question, second, assuredly, in importance, to none which can occupy the attention of the House—calmly and dispassionately. I wish to bring to the discussion of it no weapons but those which reason or facts can supply. The history of our legislation with respect to corn, must, of course, be so familiar to every gentleman who hears me, that it is only necessary for me to allude very briefly to its leading features and more remarkable epochs. From the Conquest until nearly the middle of the fifteenth century the exportation of corn was wholly prohibited. At that period, the reign of Henry VI., the exportation of wheat was permitted when the price did not exceed 6s 8d per quarter;—from the reign of Henry VI. to the reign of Charles II. little other change was made in the corn laws than a gradual extension of the price at which corn was exportable. In the reign of Charles II. a duty was laid on the importation of corn, and in 1688, 1st of W. III., the famous statute giving a bounty on exportation was passed. By that act a bounty of 5s per quarter was given on the exportation of wheat when the market price did not exceed 48s per quarter—whilst on importation the duty, as fixed in the reign of Charles II., was 21s 9d per quarter until the market price was 44s, 17s until the price was 53s 4d, and 8s until the price was 80s, then 1s 4d. By this act the trade in corn was regulated until 1766, when the duties on importation were suspended by proclamation, on account of the high prices, and in 1773, by act of Parliament, importation of wheat was permitted when the market price reached 48s, at 6d per quarter, whilst, with a market price of 44s, exportation and bounty were to cease. Of the act of 1773, Adam Smith says—“With all its imperfections, however, we may, perhaps, say of it what was said of the laws of Solon, that though not the best in itself, it is yet the best which the interests, prejudices, and temper of the times would admit. It may, perhaps, in due time, prepare the way for a better.” What would that great man, who so strongly urges the advantage of a free trade in corn, have said to our subsequent legislation on this matter? In 1791, it was enacted that when wheat was under 50s, the duty should be 24s 3d; and in 1804, that when under 63s, there should be the same duty of 24s 3d; but both these enactments were inoperative, from the high prices that prevailed during the war, and subsequently the trade in corn was free, from 1773 until 1815. In that year was passed the never-to-be-forgotten act, by which the importation of wheat was prohibited until the price reached 80s per quarter. (*Hear, hear.*) Of that act I dare not trust myself to speak—it no longer disgraces the statute book, and it is needless to characterise the spirit in which it was conceived. Signalised in its pro-

gress through the legislature, by riots and tumults, which seriously endangered the safety of the metropolis, and rendered it necessary to protect by an armed force the members of either house of Parliament in the discharge of their duties—passed amidst the execrations of the people—thrice suspended to avert famine—wheat, during its existence, having been at 112s per quarter at one time, and 38s per quarter at another, it was finally repealed in 1828, without one single voice being raised in its defence. By the act of 1828 (9 George IV., c. 60) the act which now regulates the corn trade, wheat is importable at all times, but when it is at 62s per quarter, the duty is 24s 8d; as the price rises, the duty diminishes, until at 73s it is only 1s per quarter; on the other hand, below 62s there is an addition of 1s per quarter duty, for every 1s fall in price. Now the first consideration which suggests itself, on a review of our legislation in respect to corn is this, that its constant aim (and more especially of our recent legislation) has been to regulate the price. Sir, I ask by what right we make any such attempt? An attempt, the less justifiable as it is directly opposed to the whole spirit of our legislation on all analogous questions. Our system of corn laws presents to us the startling anomaly, that whilst the prices of all other commodities are left to the operation of the various causes which influence prices, with respect to corn alone, it is decided by the legislature that the price shall not, so far as laws can secure that object, fall below such rate as to the makers of those laws may seem fit. Every thing else may fall—the produce of the loom—the wages of labour—but the price of the great necessary of life—bread—is by act of Parliament to remain unaltered. With respect to all other articles, we recognise two principles in the imposition of duties; the one, the raising revenue for the exigencies of the state; the other, the affording protection against foreign competition to some article of native produce. With respect to corn alone, we recognise a third, viz. the fixing by a peculiar mode of levying the import duties, a price below which it shall not fall, a principle widely differing from and going far beyond the mere imposition of protecting duties in all other cases. A protecting duty, in the ordinary sense, is of fixed amount, proceeding upon some calculation of the greater cost of the home trade, than of the similar foreign commodity, but it has no reference to the price in the home market of the article so protected. An illustration drawn from our practice with regard to any other commodity, will at once render clear this distinction, so important in its effects. Silk goods, for instance, are an article of home manufacture protected by a very high duty, the legislature has assumed thirty per cent. to be the amount of duty which will enable the British manufacturer to compete with his foreign rival—it imposes that duty, but it goes no further. There is no attempt to uphold the price in the home market, by enacting that the duty on foreign silk goods shall vary inversely as the price of British piece goods—that if the price of gros de Naples fall 20 per cent. the duty shall rise 20 per cent. The protection considered adequate to the different cost of production being once given, the price of the commodity is left to the natural effect of supply and demand, and the public enjoys the full benefit of that diminished price which either competition or diminished cost of production may occasion. What would be said to a proposition from the cotton manufacturers, the silk-weavers, or the clothiers, that the duties on the silks and cloths of France, or the printed cottons of Switzerland, should be regulated from time to time by the average prices of British silks, cloths and printed cottons, and yet it would not be easy, I suspect, to show what better claim the producer of 100 quarters of corn has, to have the price of his commodity kept “steady,” as the phrase is, than the producer of 100 pieces of broad cloth. Sir, we have recently given a signal proof how steadily, in respect of everything but corn, we mean to adhere to the salutary principle of abstaining from any interference with prices. The hand-loom weavers, engaged in a hopeless contest with the giant powers of steam, finding their wages incessantly falling from causes which they can neither comprehend nor contend with, turned in their despair to Parliament, and entreated of this House to regulate the

price at which the capitalist may avail himself of that labour, which is their only property. They asked of you that their wages should be fixed precisely as you attempt to regulate the price of corn, by averages of the prices of labour taken at stated periods, and with the sanction of law. Now, if ever there were a case in which one might be tempted to depart from sound principle, assuredly it is the case of the hand-loom weavers, from peculiar circumstances: first, from the increase of their own numbers adding to the amount of labour in the market, and next from the increasing use of steam in weaving, which tends to render that labour of less value. They are wholly in the power of their masters, who, again, from the force of competition, are almost compelled to use their power pitilessly; whilst in many articles in which we have not to fear foreign competition, it would appear as if the home competition, which depresses perpetually the price of the manufactured article, and with it the wages of the operatives, were without an object. (*Hear.*) The question, too, to them is not one of greater or less enjoyment, but of the means of subsistence—not of comfort or luxuries—but of life and death. (*Hear, hear.*) A select committee sat for two sessions on the petitions of these unhappy men, and heard from themselves the statement of their case. So impressed were that committee with the evidence which the petitioners brought forward of their depressed condition, that they recommended to the House the adoption of a bill introduced by the hon. member for Oldham, for regulating, agreeably to averages to be taken, after the fashion of the corn averages, the wages of hand-loom weavers. You rejected that bill: in my opinion you did wisely: you would only by interference have created evils ten-fold greater, and more widely spreading, than those you sought to remedy; but then for the sake of justice and mercy, be consistent—do not say to these supplicants, we will take no steps to prevent your wages falling; but we will endeavour as much as in us lies to keep up the price of corn. We will enjoy the advantages to be derived from your increased toil and diminished remuneration. We are content that the cloth, the linen, and the silk, which clothe our families or deck our chambers, shall fall to half or a third of their former price; but we will not permit that bread which constitutes your humble meal to fall in price, although such a reduction might compensate for your diminished means. Is this language which it is becoming in us to use? And yet it is the language of our statute-book, which equally in the abundance of its devices to uphold the price of the produce of land, and in the absence of all such affectionate care as to any other commodities, speaks a language clear and significant as to the materials of those legislative bodies from which it has emanated. It is no answer to the charge which I have brought against Parliament of manifesting an unfair preference for the interests of the agricultural classes, to say that the laws to which I have been referring have not kept up the price of corn—that we have been guilty of a profitless wrong—their intention is undoubted; and it is with their spirit and intention alone that I am at this moment dealing. I do not wish, however, to press this argument for more than it is worth, still less to charge the members of this or of the other House of Parliament with merely sordid views in their legislating on this matter. But, whilst it would display an absurd ignorance of human nature not to suspect that legislative bodies composed of landholders should have some bias towards an undue protection of the landed interest, I am quite ready to allow that they may have been so biassed unconsciously to themselves, and may have been persuaded that a course of legislation which seemed so convenient for themselves, was also conducive to the welfare of the whole community. I admit, too, that it is possible, or at least fairly open to discussion, that they may be right in such persuasion; and in that case it would be no good argument against the corn laws that they were enacted chiefly with a view to the benefit of one class if they proved to be of advantage to the whole community. On the other hand, it must also be admitted that the burden of this proof fairly rests upon the advocates of the present system, and that they are bound clearly to show a benefit arising to the whole commu-

nity from laws at least apparently so partial and unjust. Of the great, the paramount importance of all laws relating to the physical well-being of the people, there cannot be two opinions—it is beyond all doubt the most important branch of legislation; for, with a people steeped in misery, the best devised laws for the security of life and property, will—as we have the melancholy proof in Ireland—be found inefficacious, and education itself will be in vain. What should be the aim of all legislation on this matter?—to secure to the people the greatest command over the necessities and comforts of existence; and first, among these an abundance of nutritious and agreeable food—that this should be our object there can be no doubt; that the only difference of opinion will be how to arrive at it. The corn laws are our practical solution of this problem. Any restriction on the free importation of corn in a densely peopled country, must of course have the effect of raising the price in such country to a higher level than it obtains in countries where the population bears a smaller ratio to the extent of fertile soil. This must necessarily be the operation of the corn laws in England, as it was, indeed, the effect avowedly intended by the framers of them. A further result of the corn laws, but which, although flowing from their operation by a necessary and inevitable process, was not foreseen or intended by their framers, is a tendency to extreme fluctuations of price. Both of the foregoing results of the corn laws are, in their effects upon the community, eminently disastrous. We will consider them successively. I do not know that in arguing this question there is anything which, beforehand, I should have thought less necessary than the attempt to prove that a high price of food is disadvantageous, or cheap food a blessing to the people; but so many idle fallacies are afloat on this subject—such, for instance, as that price is merely relative—and that “it is no matter how dear corn is if the people have money to buy it!”—(*hear, hear.*)—that it may be as well, perhaps, to state this question as to the effect of high or low-priced food in its essential and abstract shape, and in the simplest terms. (*Hear.*) This question may, when dis-embarrassed of extraneous considerations, be stated in terms so short and clear, as almost to amount to a self-evident proposition—a proposition which ought, by this time, to have ranked among those elementary truths—no longer open to discussion. (*Hear.*) All that mankind possess of value is the produce of labour,—in exact proportion to the labour required to produce any commodity will be its exchangeable value. When any portion of the earth's surface becomes so densely peopled that all the best soil is occupied, recourse must be had to inferior soil—or more labour be bestowed on the good soils with a diminishing result. In such a country, therefore, any given quantity of food will require a continually increasing amount of labour for its production; in other words, will become dearer. But labour, however engaged, is of equal value; in such a country, therefore, the manufacturer, the mechanic, and the artisan, would be compelled to give a continually increasing amount of labour for their daily food. Can there be a doubt, then, that the state of a country of limited extent, and rapidly increasing in population—yet confined to its own resources for food, must be one of decreasing comfort? Circumstances may arrest or delay the process, but the tendency is certain. If such be the character of the corn laws, unjust in principle and dangerous in tendency, there should be some especial reasons of overpowering weight and cogency, for maintaining them. Let us see how far the arguments commonly urged in their defence deserve that character. Sir, we are first told of the value of the home market to the manufacturer—but by whom are we told this—by those who would, by their own showing, keep the price of corn here 100 per cent. above the price abroad. Their attempt to alarm the manufacturer by the prospect of losing a market in which his one hundred pieces of broad cloth produce him one hundred quarters of wheat, when he is to get in exchange, a customer who will gladly give him 200 quarters, is reckoning, as it appears to me, not in inconsiderably on his credulity. Akin to these assertions of the value of the home

market, are the professions of anxiety for the welfare of the manufacturing classes, by the same parties, and the earnest declarations of their belief that the interests of those classes and of the landholder, are identical. These professions have been reiterated I had almost said *ad nauseam*, both within and without these walls, and had served as the introduction to every measure for keeping up the price of corn. It is high time that this talk should be put an end to, the landholder and the manufacturer have a community of interest under a system of free trade in corn, they have not a community of interest under our present system; on the contrary, their interests are in direct opposition; our present system renders high prices necessary to the prosperity of the agricultural classes, whilst low prices, at least prices on a level with those of other countries, are essential to the manufacturer. These respective classes, accordingly, have never prospered at the same time since 1815; have never even appeared to prosper together, except at rare intervals, and from particular circumstances. I hold in my hand documents which completely prove this assertion, but I shall not trouble the house by referring to them, unless this assertion be disputed. But then it is asked, how should we employ our agricultural labourers, if we eat cheap foreign corn, instead of dear English corn; If their labour be at present wasted, we had better maintain them in absolute idleness, than employ them in wasting capital as well as their own time; but in truth there would be employment for them in the thousand channels which in a thriving community, and with rapidly increasing wealth, are open to industry; independently of the consideration that the repeal of the corn laws would change the nature rather than alter the amount of the demand for agricultural labour. Again it is said, that high prices of agricultural produce are necessary to enable us to bear the burthen of taxation, and that the corn laws therefore are wise and just laws as producing that effect. Never was a mistake so gross—I had almost said so ludicrous as this. The power to support taxation depends wholly and solely on the net income of the community—on profits; that is, after defraying the cost of subsistence of the labourer and replacing the funds of the capitalist. A net surplus of income is the only fund on which an individual can permanently rely to endure any burden on his finances, and as the cost of his subsistence is lower so will his surplus be larger. That which is true of one man is true of a nation, and if we could with a free trade in corn procure the amount of bread now consumed in the empire, by the labour of 500,000 fewer men, we should add annually to the national resources, the whole produce of their labour (a produce little short probably, of the interest on the national debt) now on that supposition utterly wasted. But does this proposition rest on theory alone? On the contrary; it is supported by the unanswerable logic of facts. If it be true that high prices of agricultural produce are necessary to enable us to support taxation, then the revenue would be flourishing when the prices of that produce were high, and decay when they were low. How do the facts for the last twenty-nine years agree with this hypothesis? The revenue of 1815, from the four great sources of income of the state, viz., customs, excise, stamps, and assessed taxes, was . . . £75,045,882 The revenue of 1819 from the same sources 54,257,060 Being a diminution of 20,788,822 But in the years 1816, 1817, 1818, and 1819, Taxes were repealed amounting to £17,862,848 Taxes were imposed amounting to 3,486,707 14,376,141

Actual falling off of revenue £6,412,681

Now, during the period in which the defalcation occurred, what were the prices of corn? Low of course, if the hypothesis to which I have alluded be sound. They were, on the contrary, by very far the highest which have occurred since the peace, and almost equal during a portion of the time to the highest price of the war.

The mean price of 1816 was 76s 2d per qr.
 1817 .. 94s 0d
 1818 .. 83s 8d
 1819 .. 72s 3d

Mean price of the whole series . . . 81s 6d per qr.
 The prices of the next four years were as remarkably low, viz :

1820..65s 10d..1821..54s 5d } mean 53s 10d
 1822..43s 3d..1823..51s 9d }

And during this period the condition of the revenue was as follows :

Revenue of 1819, as above stated £54,257,060
 of 1823 54,465,845
 Being an increase of 209,785
 But in the four years there had }
 been taxes repealed 6,800,145
 Less ditto imposed 183,040 6,617,105

Real increase of revenue £6,826,890

So that whilst with a price of 81s 6d, (the price be it recollected, at which it was hoped, expected, and intended, that wheat should remain under the law of 1815), the revenue fell off 6,400,000l in four years; with a price of 53s 10d, it improved in a period of similar duration, 6,800,000l. A comparison of the state of the revenue with the prices of wheat during the years since 1823, does not present results so striking as those I have already stated; but it yet affords results well worthy of the attention of the House. Still taking periods of four years, the results are as follows :

Revenue of 1823, as above £54,466,845
 Ditto of 1827 52,036,343

Apparent diminution £ 2,430,005

Price of
 1824, 62s 0d } Taxes repealed £7,528,825
 1825, 66s 6d } Less imposed 307,832 7,220,993
 1826, 56s 11d }
 1827, 56s 9d } Real increase of revenue.. £4,790,988
 Mean 60s 6d.

Revenue of 1827, as above £52,036,840
 Ditto of 1831 48,041,966

Apparent diminution £3,994,874

Price of
 1828, 60s 5d } Taxes repealed £5,837,188
 1829, 66s 3d } Less imposed 1,325,556 4,510,632
 1830, 64s 3d }
 1831, 66s 4d } Real increase of revenue £ 516,758
 Mean, 64s 4d

Revenue of 1831, as above £48,041,966
 Ditto 1835 47,646,920

Apparent diminution £ 395,046

Price of
 1832, 58s 8d } Taxes repealed £4,335,339
 1833, 52s 11d } Less imposed 198,469 3,940,293
 1834, 46s 2d }
 1835, 39s 4d } Real increase of revenue £3,940,293
 Mean, 49s 3d.

It will be observed how invariably the revenue fluctuated inversely as the price of wheat, rising as the price fell, and falling as that rose. The house will, I think, agree with me that the results of the foregoing comparison are as instructive as they are striking. We shall not hear again, I trust, of the necessity of high prices to enable us to support taxation, or endure the burthen of the national debt. The advocates of the existing corn-laws have mainly relied on their tendency (of the act of 1828, that is) to produce steadiness of price; their beneficial effects in this respect was brought prominently forward in the report of the committee on agricultural distress in 1833. Sir, the committee congratulated themselves somewhat prematurely; the fluctuations since 1828 having been from 75s 3d in November, 1828, to 36s in January, 1836. I shall presently show that great fluctuations are the demonstrably certain consequence of restrictions on the trade in corn. I will only now observe that the slightest variation in

the price of wheat, which this country has known for a period of 140 years, was from 1773 to 1791, the only time during that period in which we have had a free trade. The favourite argument, however, of the advocates of restrictions on the importation of corn is, that we may be independent of foreign nations for our supply of food. Now, if this independence have reference only to natural causes—if it be intended to assert that we shall be more secure against the defects of deficient harvests by growing all the corn we consume, than by drawing a portion of it from other countries, the proposition is false, almost by its very terms. You insure the regularity of any result precisely in the degree that you multiply the instances from which your induction is drawn—one field will yield a less certain annual produce than a whole farm, a farm than a county, a county than a kingdom, a kingdom than a continent, a continent than the world. But if by independence be rather meant an independence of the caprices of foreign governments, the position, although not capable of so strictly logical a refutation, is to the full as untenable. Under a system of free trade some portions of many nations, with every possible variety of situation and of interests, would be engaged in growing corn for our use; it would not be wantonly, nor lightly that the government of any one such nation would distress its subjects by depriving them of a commerce so important to them—is it conceivable that all would do so simultaneously? The very supposition is an absurdity. But, Sir, this talk of independency is unworthy of us, either as philosophers or legislators. So far from wishing to make a nation independent, as it is called, the aim of wise statesmen should be to render a nation as dependant as possible on its neighbours, in the clear conviction that such dependence must be mutual. As amongst individuals and families, so among the greater families of the human race mutual dependence, which is the very basis of the social compact, is the prolific source of the feelings which elevate and the enjoyments which sweeten existence, and precisely in proportion as nations are dependent on each other will the happiness of all be increased, and the unspeakable calamities of war be rendered of less probable occurrence. But, Sir, if the corn-laws do not conduce to the welfare of the whole community, what has been their operation upon that portion of the community for the benefit of which they were expressly enacted—how have they worked for the protection of the landed interest? Why they have signally and notoriously failed. Taking the three great classes into which the agricultural interest, as it is called, may be divided, viz., the owners of the soil, the farmers or capitalists, and the labourers, the only class to which they have not recently worked injury are the labourers, and the labourers they have not injured precisely because they have failed in producing the effect which was designed and expected by the framers of them. That it is because the corn-laws have been lately inoperative in producing their designed effect on prices, that they have failed to injure the labourer, we are furnished with decisive testimony by both the committees of 1833, and of the last session, on the state of agriculture. The committee of 1833, in the report says, "It is a consolation to your committee to find that the general condition of the agricultural labourers, in full employment, is better now than at any former period—his money-wages giving a greater command over the necessaries and conveniences of life." The committee of last session made no report, but I am sure that I shall meet with the concurrence of every member of that committee, and indeed of every one who has read the evidence, in stating that, if there be one single point placed by that evidence beyond dispute, it is the greatly improved condition of agricultural labourers. More than fifty witnesses, occupiers of land, from all parts of England, Wales, and Scotland, were examined, and among them, scarcely one expressed even a hesitating opinion as to the state of comparative ease and comfort of the labouring classes. All, or nearly all, said in the strongest language, that the condition of those classes was better than at any period within their recollection, and all attributed it to the cause assigned in the report of the committee of 1833, viz., that the money-wages of

the labourer gave him an unprecedented command over the necessaries and conveniences of life. This effect is precisely what reasoning and experience would lead us to anticipate, the labourer is directly and deeply interested in the cheapness of the necessaries of life, and all history shows that the rate of his wages follows but slowly and inadequately a rise in the price of those necessaries. With respect to the farmer these laws have not only failed to confer on him the advantage it was asserted he would have derived from them—that he would not have received had the corn-laws been effectual for the attainment of their object—but they have, in many cases, worked his entire ruin, in all have been prejudicial to his interests, and must in the long-run, by a progress demonstrably inevitable, cause the entire destruction of the farming capital of the country. So far from the framers of those laws being entitled to call themselves the farmer's friends they are, unintentionally, no doubt, his bitterest and cruellest enemies. The farmer has no interest in high prices, even could they be steadily maintained, as in the competition which a limited quantity of land produces, the landlord is sure to get, in the shape of rent, all the produce of those high prices which are beyond the ordinary profits of capital. (*Hear, hear, hear.*) The corn-laws would be valueless to the farmer, even could they keep up the price of corn; but what is their effect? When, as is now, or has been recently the case, they fail to keep it up? Why, that they are the cause of his utter ruin; the temporary rise of price they produce, induces him to engage in a farm, in which his rent, his mode of culture, his expenses are all calculated on anticipations of a price of corn which he finds to be delusive; and, after a few years' struggle, in which part of his capital goes to the landlord, and part is utterly wasted, he throws up his farm a ruined and brokenhearted man. The farmer is merely a capitalist. That which is alone really interesting to him is, that the price of corn should be steady. That system is best for him which has the greatest tendency to produce steadiness of price. A free trade must demonstrably produce the greatest steadiness; and I assert, therefore, as an axiom not to be controverted, that the farmer has a deep and vital interest in the abrogation of the corn-laws, and in rendering the trade in corn completely free. But the landholders—surely these laws, framed by them, and with a direct view to their advantage—must to them, at least, be highly beneficial. Sir, I am satisfied that if there be one class of the community more deeply than all others interested in the abrogation of the present system, the landholders are that class. I rest this assertion mainly on two propositions, both capable of complete demonstration; first, that it is impossible, by any legislative enactments, permanently to keep up the price of agricultural produce in this country, considerably above its level in other countries, all that you can effect is to produce a ruinous fluctuation; but, secondly, that the attempt so to keep it up involves the risk, not only of depriving the English landholders of the great advantages which they at present possess, but of depressing their condition as much below as it is now above, the condition of the owners of the soil in any other part of the world. The whole scheme of keeping up the price of native grown corn by legislative restrictions on the importation of foreign corn—whether those restrictions take the shape of absolute prohibition under a certain price, as by the act of 1815, or of virtual exclusion, by duties so high as to be prohibitory, under the present law the whole scheme rests on the assumption that we shall always be an importing country, that we shall always grow less than we consume, that there shall always be a tendency to dearth. It is quite demonstrable, by *a priori* reasoning, that this is a state which cannot be permanent. In order that dearth may not become famine, it is necessary that such an amount of capital should be devoted to the cultivation of the soil as, in ordinary years, shall produce a supply equal to the consumption of the kingdom. This tendency of capital to flow towards the cultivation of the soil is certain: it will be attracted to that employment preferably to all others, because the demand for the necessaries of life is of all demands

the least checked by high prices; the consumption of articles of luxury very speedily diminishes with advancing cost, but the demand for food must be satisfied, and until, therefore, the ordinary profits of capital cannot be obtained in raising corn, capital will be applied to its production, whatever be its cost. What is the inevitable result? The supply which in ordinary years was about equal to your wants, with an abundant harvest exceeds them, and the portion which is surplus to the national consumption must fall not only to the price which it will fetch in foreign markets, but as much below that price as will defray the cost of its transport. In the home market you cannot have two prices, the price of the surplus you have to send abroad must regulate the price of the whole, and you place yourselves therefore in the most disastrous of all conditions, viz., that your whole system of culture being calculated upon a price of corn, far above the average prices of other countries, you must of necessity have at given intervals a price far below that average. The effect of so violent a revulsion is of course to check cultivation—some farmers are ruined—some struggle on, sowing a less breadth of corn; the supply again falls below the demand, your laws then come into operation, and cause the price to rise beyond the level of other countries, if a short harvest or two intervene, corn rises to a famine price, and whilst distress occurs among the manufacturing classes, wild hopes are again excited among the farmers, the growth of corn is again improprietly extended, and you recommence your miserable cycle. Are these only speculative evils? Do they exist only in the imagination of theorists? At this moment they oppress us—twice since the act of 1815 has this succession of cause and effect, this ruinous alternation taken place. The framers of the act of 1815, and the persons engaged in the pursuits of agriculture, almost universally anticipated, as the consequence of that measure, a price of corn not averaging less than 80s; in 1822 it was 38s. Mr. Canning, in 1827, said, when introducing his resolutions similar, or nearly so, to the provisions of the existing law—"The market will assume such a steadiness, that instead of a fluctuation between 112s at one time and 38s at another, the vibrations will probably be found to be limited within the small circle from about 55s to 65s." Now has this prophecy been fulfilled? In 1828 the price of wheat was 75s, in 1836, 36s. What becomes now of your grave discussions as to the degree of protection to which the landed interest is entitled, of your laborious inquiries as to a remunerating price, that phantom which has always mocked your research? of your elaborate scale of ascending and descending duties? Providence blesses us with abundant harvests, and sweeps away the puny effects of that legislation which would obstruct the equal distribution of its blessings. The real and permanent interest of the landholder of this or any other country must be that the community of which they form a part should always import corn. You have so legislated as to render it absolutely certain that at given intervals we shall be an exporting country, and an exporting country, too, without a market. The evidence given before the committee of last year, affords proof clear and indisputable, that the corn laws have in this respect; viz. the tendency to produce great fluctuation—the effect I have ascribed to them. There was a remarkable concurrence of opinion among almost all the witnesses as to two most important points. First, that for some years, up to 1834, there had been a perpetually increasing tendency to enlarge the growth of wheat; and, secondly, that in 1835 there had occurred a striking revulsion in this tendency. The decrease in the breadth of wheat sown in the autumn of that year was, by almost all the witnesses, stated as considerable, and by some, rated as high as 25 per cent. and even higher. The reason of this change is clear. Wheat has been the especial favourite of our legislation; it was supposed in old times to be the great reliance of the farmer. "Wheat paid the rent," it was said, and accordingly it has been in a yet higher degree than other grain, the object of parliamentary protection. We have chosen to assume that 73s, 41s, and

31s, are the prices that express the fair relation of the cost of growth of wheat, of barley, and of oats respectively—and the result shows how eminently absurd is any legislative interference in such matters. These prices did at no time perhaps express accurately that relation—but, since the introduction of the four-course system of husbandry, which dispenses with fallow, and those improvements in cultivation which have rendered the lighter soils as applicable to wheat as to barley and oats, this assumed relation of cost has become utterly erroneous and devoid of foundation. What has been the consequence? Why—that whereas by your laws, you say that wheat shall be 78s per cent. dearer than barley, and 135s per cent. dearer than oats; it has been during no inconsiderable period about, or very little above the price of oats, and actually below the price of barley. It has been during the past year cheaper, than at any period within half a century in England, cheaper even than the mean price of the countries from which chiefly we import it. The very article which it has been the darling object of your policy to keep not only high in price, but steady—which you will not permit the people of England to eat unless they will pay dearly for it—has fallen to a rate which has made it an economical food for pigs. But this is a temporary evil, it may be said, and will cure itself. No doubt. It is in a rapid process of cure. Your admirable system, having wasted an enormous portion of the capital of the producers of corn, is now about to show how successfully it can afflict the consumers. Capital has been abstracted to so great an extent from the growth of wheat, that unless we have a harvest this year of unusual productiveness, we shall see prices before the crop of 1838 can be reaped, which will, I suspect produce remonstrances from the manufacturing districts very different in tone from the language in which they now address you. But, setting aside the effect of monopoly to produce the fluctuations I have described—conceding that our harvests are always to be of uniform produce—admitting that we can succeed in maintaining a state of partial dearth—which is never to rise into abundance on the one hand, or to sink into famine on the other. Admitting for a moment all these impossibilities, could you then keep up the price of corn considerably above the level of other countries? Even then, Sir, it would be impossible. One of two things must happen; either your manufacturing capital would depart to other shores, and the population which it at present supports, must be reduced by emigration, or the more dreadful process of misery; and the home market for corn being thus limited, the price of course reduced, or you would drive your labourers to cheaper food, and thus equally diminish the demand for wheat. It is an absolute condition of the existence of our manufactures, that the rate of wages should not be greatly above the rate in other manufacturing countries, and if the price of bread be such that it is not within the reach of the operative, he will betake himself to potatoes. Where will then be your market for corn? What the condition of the humbler classes? What their resources against famine? What will the chances of the preservation of order, or the stability of property be worth? I repeat you cannot maintain permanently a price of grain much above the average price of other countries, the utmost you can achieve by legislative interference is to produce a miserable fluctuation, alternately crushing into ruin the farmer or the manufacturer, and always injuring both. But can this state of things be really and permanently for the benefit of the landlord?—(Hear.) Can rents nominally higher, but often unpaid, compensate to him for the ruin of his tenants, the impoverishment of his land, and the slow but sure destruction of that manufacturing and commercial greatness, to which alone he owes the superiority of his condition over the landholders of any other country under Heaven? By grasping at the shadow will he not lose the substance? The overflowing wealth which commerce and manufactures have poured into the lap of England, and the demand which the crowded cities, which have grown up at their bidding, afford for every production of the soil, confer upon land in this

country a value absolutely unknown in any other country, and until comparatively a recent period, unknown in our own. Ample proof of this fact is to be found in the report of Mr. Jacob, who in the years 1826 and 1827 visited, by direction of government, the great corn-growing countries of Europe. Throughout Denmark, Prussia, Poland, Galicia, and Hanover—throughout the wide regions watered by the Vistula, the Weser, and the Elbe—either rent does not exist at all, the proprietor being under the necessity of cultivating his own estate—or it varies from 5s per acre to 15d per acre. By the testimony of Locke, it appears that 5s per acre was a rack-rent in his time in England. Not the smallest additional development can be given to the operation of the steam-engine—not the least improvement can be effected in the loom, which does not add to the value of every landed estate in the kingdom. It is not in the higher price of corn alone that the advantages of the English landholder consist.—(Hear, hear.). The admirable roads, the means of transport by canals and railroads, the abundance of capital, the facility of credit, the demand for those articles in which he never can be rivalled by the foreign agriculturist—for animal food, for milk, for butter, for esculents, for hay, for straw—all these are advantages of which it is not easy to over-estimate the value. The English landholder possesses a natural monopoly in being proprietor of the soil in the richest and most densely-peopled country in the world; by attempting to add to it an artificial monopoly, he may lose some of his present but can gain no additional advantages. The precise degree in which we can afford to pay more for the necessities of life than is paid by other nations, is the degree to which by our greater capital and skill, and the possession of coal and iron, we can underwork those nations in manufactures. The only mode by which we can be assured of not over-stepping those limits, is by leaving the trade in the necessities of life free. To preserve that commercial and manufacturing superiority which gives to the British landholder his present pre-eminence, will demand in any case an arduous struggle; by permitting a free trade in the necessities of life—thus raising the price in those countries which are our manufacturing rivals, and depressing it in our own—you take the best means in your power to render us successful in that struggle. But I repeat that under any circumstances, success will be of difficult attainment—without an alteration in our present system it will be impossible. Sir, I well know the answer that will be made to this assertion. I shall be referred to the increasing amount of our exports as proof that our corn-laws are not inconsistent with the prosperity of our manufacturing interests. It is with the full knowledge of the facts on which such an argument may be grounded, that I repeat my deliberate conviction that our manufacturing and commercial supremacy trembles in the balance. Our corn-laws affect our manufacturing interests by a double process—first by depriving our manufactures of extensive markets which would be otherwise open to them, and secondly, by disabling them from successfully competing with their foreign rivals in those markets to which both have access. You have already lost or are rapidly losing your European markets. How long will you retain those of the other portions of the world? On this point I beg to call the attention of the House to a document recently circulated by the "Cotton Association of Glasgow and the West of Scotland," relating to the cotton manufacture, by far the most important of all the branches of our national industry. I find it there stated, that the consumption on the continent of Europe of raw cotton was last year upwards of 600,000 bales—that the cotton manufacture of France has increased in ten years 58 per cent., whilst ours has increased only 50 per cent.; but in the same time that of the United States of America has increased 121 per cent. I find it stated that cotton hosiery is manufactured in Germany so cheap, that it is imported into this country, notwithstanding an import duty—that of cotton yarn the importation is gradually confining itself to the finer qualities clearly proving that even in spinning, that especial branch of the manufacture in which we have been accustomed to consider ourselves secure from

competition, the exertions of our continental rivals are daily becoming more formidable; that in every market of the world, in Mexico, in the Brazils, in China, in India, at Malta, at Smyrna, and Constantinople, the heavy cotton cloths of the United States of America enter into successful competition with the produce of the English looms. I find it asserted that in America the manufacturer gets his raw material cheaper, that on the continent of Europe wages are lower than in England, whilst in both water power supplies at a cheaper rate the agency of steam. Now, I intreat of the House to weigh attentively the object with which these representations are made; it is to induce the legislature to take off the small tax yet levied on the importation of cotton wool, five-eighths of one penny per pound, amounting on the whole of the goods manufactured to only 2 per cent.; and it is the deliberate opinion of the association that the removal of even this amount of pressure is essential to enable the British manufacturer to endure the competition of his foreign rivals. I hesitate not to say that the association is right, and that the duty must be taken off. But I say further, that this relief will not suffice—that wages, which form so much larger a component part of the cost of manufactured goods, cannot in England permanently remain much above the wages paid in similar branches of manufacture in other countries, and that such approximation of the rate of wages here and abroad can only take place without a convulsion by an approximation also in the prices of the necessities of life. Of the amount of risk we should incur by seriously endangering the loss of the foreign market for our cotton goods, the House will judge when I state that of the cotton manufacture, which leaves for profit on capital and wages of labour not less than 25,000,000l per annum, and employs or supports from two to three millions of individuals, two-thirds, or perhaps three-fourths, find a vent in foreign markets. That under our present system these, the chief sources of our national wealth and greatness, will be dried up; that if we do not abrogate the corn-laws—those laws which, whilst they exclude us from one-half of the markets of the world, will render us unable to support competition in the other. We shall sooner or later lose our manufacturing supremacy, I hold to be certain. My own opinion is, that the epoch of that loss will not be long delayed—but, be its occurrence nearer or more remote—if there be truth in reasoning, or certain anticipations to be drawn from experience—come assuredly it will. In the issue of this great experiment, the landowners are more deeply interested than any other class of the British people. (There was here some indication of counting the House.) The hon. member observed that it was a most unworthy mode of getting rid of the question without the cognizance of government. (Hear, hear.) He continued, I repeat that the landowners are more interested in the issue of the question than any other class of the community. If England retain her present commercial and manufacturing superiority—if she be, by the enjoyment of a free trade in the necessities of life permitted to advance in her career of prosperity—if, as her population increases, her wealth increases in a yet greater ratio. If her people acquire an increasing command over the comforts and enjoyments of existence, there will be a safe and extending market for every various produce of the soil, and land will improve in value by a sure and rapid process. If, on the other hand, our commerce should decay, if our manufacturers—excluded from the continent of Europe—should be undersold in transatlantic markets and the millions who depend on them should be left without employment, what would then be the condition of England? I will not dwell upon a prospect appalling to contemplate, I will only remind the House that should such ever be our condition, the wealthy capitalist—the skilful artisan would quit our shores; leaving an unemployed and desperate population as a burden on the landholder, who must perforce remain a witness and a victim of the ruin he would have caused. Having now, Sir, stated to the House; however inadequately, the amount and nature of the risk we incur by a prolonged existence of the present corn-laws, and the deep in-

terest which all classes of the community have in their immediate abrogation, it remains for me to point out what regulations I would substitute in their place. I would propose to sweep wholly away the system of average and fluctuating duties, and to leave the importation of every species of grain perfectly free, subject only to a moderate fixed duty. I would abolish the fluctuating duties, because in whatever degree reduced, they would still be destructive of the most essential element of a free trade; viz., a certainty as to the amount of the charges on the importation of foreign corn. I would have the fixed duty of moderate amount as a high fixed duty would, of course, in proportion as it operated to the exclusion of foreign corn, produce all, or nearly all, the evils I have ascribed to the present system. The duty should be in amount an exact equivalent for the burthens which the agricultural capitalist has to sustain beyond what is borne by the rest of his fellow citizens, and which enhance the cost at which his produce can be brought to market. The amount of those burthens is clearly the exact measure of the protection to which the agricultural interest is entitled; for whilst on the one hand it is both just and expedient that the weight of taxation should be diffused equally over the whole community, and not be permitted to press more heavily on one branch of the national industry than another; on the other it cannot be contended that the taxation which is raised from the agricultural classes in their character, not of producers, but of consumers, that taxation which falls only on the rent of the landlord, or the profits of the farmer, can give a claim for peculiar protection. Having defined the rule by which the new duty should be calculated, I might fairly, perhaps, leave my motion in the hands of the House, and devolve on the committee the task of applying that rule. I feel, however, that the more open and candid course, although not the best adapted for securing support to my motion, is to state what in my opinion should be the amount of the permanent duty. I should propose, if the House accede to my motion, that the new law should come into operation on the 1st of June of this year. That from that time to the 1st of June, 1838, the duties should be 10s per quarter on wheat, 8s on barley, and 6s on oats; to the 1st of June, 1839, 8s on wheat, 6s on barley, and 4s on oats; and from that time permanently 5s per quarter on wheat, 4s per quarter on barley, and 3s per quarter on oats. The ground on which I fix the relation between the different kinds of grain I have named; the duties to be fixed on the less important sort I have not named will be matter of discussion in the committee. I will now merely say that the duties I have mentioned are more than a full equivalent for the whole of those charges which press exclusively on the landed interest, or enhance the cost of growing corn. Sir, it may perhaps be expected that I should express some opinion as to what would be the price of corn in England under such a law as I have proposed. My own complete conviction is, that with a free trade and a duty of 5s wheat could not to the extent of one fortnight's consumption of the kingdom be imported under 40s to 45s per qr, that would of course be the mean price of this country, and minus the duty and cost of transport the price of every country with which we have intercourse. I am aware that this conclusion is at variance equally with the opinions of the most eager advocates and strongest opponents of the abolition of the corn laws; but I am, on full investigation, satisfied of its correctness, and I state it, because whilst I believe the benefits and blessings which a free trade in corn would confer on every class of the community are scarcely to be calculated; but I am anxious that the true nature of those benefits and blessings should not be misunderstood on the one hand, nor the sacrifice at which they are to be obtained, overrated on the other. A free trade in corn would restore those friendly and intimate commercial relations with the nations of the world, which our corn laws have interrupted—relations not to be shaken, because they would rest upon the natural wants and capabilities of every country, and be cemented by the interchange of mutual benefits. A free trade in corn, whilst it would re-open to our manufacturers the markets of Europe, would, by ensuring to

them a moderate and steady price of the necessaries of life, enable them to support competition in those of the new world. Nor is there any sufficient ground for believing that these most important national objects would be gained at the price of any considerable derangement in British Agriculture. I have already shown, on grounds which cannot, as I think, be impugned, of what deep, what vital importance to the permanent well-being of all the classes concerned in the cultivation of the soil is a free trade in corn. That object should be steadily pursued by the agricultural interests, whatever be the amount of temporary inconvenience by which the return to a sound system should be accompanied. But the amount of that inconvenience has been greatly overrated. It is impossible, I think, attentively to weigh the evidence given to the committee of last session, without perceiving that the protection hitherto given to agriculture has had the same effect in that instance as in all trades to which it has been applied, viz., that it has paralyzed exertion and caused the misapplication of capital. I do not believe that more than a very moderate quantity of foreign grown wheat could be laid down here at less than from 40s to 45s per quarter, and I am altogether sceptical as to the British agriculturist being unable to grow it at that price. He has enormous advantages over his foreign competitor, and with the improved culture and more judicious application of capital, which would follow on the establishment of free trade, I doubt whether more than a very small portion of the land of England would be found incapable of producing corn at a price to compete with the foreign growth. If, instead of persisting in the absurd and unjustifiable attempt to keep up the price at which corn shall be sold, we apply the vast resources at our command to cheapen the cost of its production, I believe that not only the present, but a much larger quantity might be grown, and grown with a profit at a rate to defy foreign competition. This is the path which has led to our triumphant success in manufactures, and, I believe, that in agriculture it would lead to a like result. No doubt, with an increasing population, a period must arrive when this process could be carried no further. Even the vast advantages possessed by the British agriculturist would not enable him indefinitely to augment the produce of the soil of England. The great value of a free trade in corn is, that it would indicate the precise point at which the aids to be derived from a dense population, and the application of capital and science would cease to counterbalance the effect of the mere fertility of soil in countries not possessing such advantages. I believe that period to be yet remote. Ample support for this opinion might be drawn from the evidence given to the committee of last session, but I feel that it is totally unnecessary that I should trespass on the indulgence of the House for this purpose—all such considerations merge in the wider conclusion—the grounds for which it has been my main object clearly to lay before the House, viz., that an equality, or nearly an equality, in the price of the necessaries of life in this country, and those which are our manufacturing rivals, is the absolute condition, I will not say of our prosperity, but of the security, almost of the existence of our social system. It is be really true that wheat can be grown in other countries at a cost which would admit of its being laid down here at a price much lower than I have named, that fact only renders more certain the advent of the ruin which I have predicted as a consequence of a perseverance in our present system. In conclusion, Sir, I would implore of the members of this House, more especially of that large portion connected with the agricultural interests, to weigh calmly and dispassionately that which I have laid before them. Mine has been little more than the humble merit of bringing into one view the overwhelming arguments which bear upon this great question; but to those arguments can there be a reply? I call on them as men of honourable feeling, to free themselves from the suspicion of legislating with sordid views and for their own immediate benefit. I call on them as statesmen to expunge from our own statute-book those laws which are a disgrace to the intelligence of the age—which furnish an excuse for every lingering error, for every absurd restriction in our com-

mercial code. I call on them as lovers of their country to avert the dreadful calamities which a perseverance in our present system will at no distant period, entail on England. I warn them as prudent men, to delay no longer the solving a question—on the wise solution of which depends, I venture to assure them, not the value only, but perhaps the very tenure of their estates. *(Cheers.)*

Mr. VILLIERS seconded the motion.

The Marquis of CHANDOS said that this question now came before the House, in a way that he must congratulate his countrymen upon, it was now no longer a question of protection to the farmer or the agricultural interest, but it was free trade. The agricultural interest wanted no monopoly, all that they wanted was a right to ask for protection against the foreigner, which the manufacturer at present had. He must confess that he did hope that some member of the government of the country would have expressed an opinion early in the debate, upon this important subject, but when he looked at the Treasury Benches, he was at a loss to conceive what course his Majesty's Ministers meant to take. He considered it the bounden duty of the Government of the country to take some steps in the question, and to state whether they intended to support the proposition of the hon. member for the Tower Hamlets, for free trade or not; because, if it went to the country that free trade was the object, and that object was backed by ministers, he would venture to say that the greatest alarm would be created throughout the country. He knew that he had laid himself open to much blame and censure in that House for advocating the interests of that class to which he belonged; in doing so, however, he felt the gratification of knowing that he had no object to serve but to protect the interests of the agriculturists, and if protection was not afforded to them the greatest act of injustice was committed.—*(Cheers.)* With the hon. member who had opened the debate he differed entirely; he had forgotten if the free trade system he had advocated was introduced and became law, that it would, to a great extent, ruin the labourers of the country.—*(Cheers.)* Would he advocate a diminution of wages, and see the poor man starving. "Live and let live," was a motto well known in the country, but it was not followed by the hon. member for the Tower Hamlets.—*(Cheers.)* He took protection to himself, but he would not grant it to the farmers.—*(Cheers.)* He (Lord Chandos) knew that for many years the corn-laws had been a subject of great jealousy and clamour in the country; but that arose from the attempt on the part of certain individuals to mislead their fellow-subjects. They had attempted to show that the farmer was a monopolist, and that so long as he could take of his own interest, it mattered not to him what became of that of others.—*(Cheers.)* Were the farmer and landowner to be thus stigmatised, were they to be denominated as a set of men that lived only for themselves?—*(Cheers.)* Monopoly the farmers had not, neither did they desire; all they wanted was fair remuneration, and protection such as the hon. gentleman and manufacturer already had. Was the hon. member prepared to support the foreigner at the expense of the English farmer? he, (Lord Chandos) felt no doubt if he was, that a British House of Commons would not go along with him.—*(Cheers.)* Would the House tolerate the proposition that there should be a free trade in corn but not in manufactures? The farmer required protection as well as the manufacturer, that was all he asked for, and all he required. They wanted equal justice and equal protection, and he (Lord Chandos), on their behalf, would not consent to give up that which was their undoubted right upon any notion of free trade.—*(Cheers.)* When associations were formed for the purpose of exciting feelings of distrust towards the agriculturists, it was time to take the question in hand boldly and manfully and resist associations of such descriptions.—*(Cheers.)* They had been told in the course of the hon. gentleman's speech, that he owed everything to the manufacturing interests. How, he would ask, did England maintain itself during the war? Would the hon. gentleman state, that the landed proprietors did nothing then; did they not pay heavy debts, did they not find arms?—*(Cheers.)*—and if it had not been for that interest

during the war, he had no hesitation in saying that many who were now setting in that House never would have sat there.—*(Cheers.)* He would admit that much benefit might arise to the agricultural interest by an alteration of the averages, fraudulent ones had no doubt existed, and great difficulty had arisen; but he felt confident that the House would do no good but much mischief to the land-owners and agriculturists if they acceded to the proposition of the hon. member's. If they depended upon foreigners in the hour of distress, God help them! —*(Cheers.)* He would not sacrifice the interests of the country to the interests of the foreigner, and he should therefore oppose the proposition of the hon. member. In his opinion, the present system of corn-laws, notwithstanding all that had been said against them, had been more satisfactory to the country than any other measure.

Lord DARLINGTON said he felt his incapacity to discuss the question with proper ability, but he should feel that he neglected his station, and the interest he represented in that House, if he did not offer his sentiments on the subject. He was devoted to the landed interest, but he would never advance an argument in favour of that interest which had the tendency to prejudice another interest. The corn-laws were framed to protect the English growers from the inundation of corn from foreign countries, in particular from the Baltic; and since the period of their formation, the outcry had never ceased against, what was called, an undue protection to the English farmer. With regard to free trade, he considered the principles of free trade to be incompatible with the commercial situation of this country. The policy of the corn-laws had been so often discussed, that it was impossible to add anything new. The subject resolved itself into a very narrow compass. In his judgment, the question was whether the agricultural interest, with all its large dependencies and the large proportion of the population employed directly and indirectly in it, ought to be protected? *(Hear.)* It had been argued that the manufacturing interest ought to be considered the paramount interest, and that the agricultural interest was inferior to the manufacturing interest. He (Lord Darlington) considered that the agricultural interest was the primary interest, and that to that interest the country owed the proud eminence which she at present possessed. *(Hear.)* He was no advocate for free trade; the country had been too long misled by free-trade theories; but if free trade was established he would not be the member to stand out for an exclusive protection to agriculture. *(Hear.)* What had been the effect in foreign countries with respect to our free trade? Why the more we had relaxed our prohibitions, and the further we had pushed the principles of free trade, the greater was the imposition and advantage taken by the continental powers. Look at France for instance, that country had relaxed some of its prohibitions, and yet it had taken the most unceasing advantage of our free trade vagaries. He did not blame the foreign powers for looking at their own interests, he blamed those only, who relaxed their hold of those strong positions, by which the country had acquired so flourishing a condition. He was not so prejudiced in favour of the laws as to say, they were the very best which could be framed for the purpose; but he did consider while they existed, that they formed a necessary protection to the farmers. *(Hear.)*

Mr. HANDLEY congratulated the House on the absence of all party feeling from the discussion. He could have wished that the member for Wolverhampton had followed the example set by all other hon. gentlemen. He was willing to abandon the corn-laws as soon as it could be shown that it was essential for the interests of the community. But he did not think that period had arrived, and it should be recollected that they were only now recovering from great agricultural distress, and that but three years had elapsed since a large majority of the House had decided against interfering with the laws as they now existed. He thought the hon. gentleman who introduced the subject was bound to show that some great evils had resulted from the corn-laws. He was free to confess that he felt well satisfied with the present sliding scale of duties. To obviate fluctuation in the prices of articles in the market

affected by circumstances, was altogether impossible. Poverty was greatest, and consumption least in those countries where corn is cheapest. He asked, was the Chancellor of the Exchequer prepared to abandon the taxes on malt, on spirits, &c.; was bread alone to be the only commodity not subject to pay duty to the state? He always remarked, that when bread was cheapest the quantity consumed was diminished because the greater amount of wages could be laid out in the purchase of tea, sugar, and other luxuries. Some observation was made early in debate, upon an anti-corn-law society; he believed the hon. member for London was at the head of it. And a notion was put forward by them that no disadvantage would result from a quantity of land being thrown out of cultivation, for they need only turn it to the growing of beef. It was his firm conviction that, loaded as this country was with debt, it was quite Utopian for them to expect that they could arrive at the plan submitted by the member for the Tower Hamlets.

Mr. G. HEATHCOTE regretted that this subject was brought forward at all. The agriculturists required nothing from Parliament but to be let alone, and it was perfectly well known that the intention was to get rid of all duties whatsoever. Did the hon. gentleman believe that if this change were now effected there would not next year be an attempt at farther alteration? Until they could find means of regulating the sunshine and the showers, they could not prevent fluctuation in prices. He believed England grew quite sufficient corn for the support of its inhabitants, and that it was quite unnecessary to resort to the continent or to the United States unless in case of a war. It should be remarked that this question was always argued as if the agriculturists were a small and insignificant body, whereas, they were a most numerous and influential class. He had the honour to represent a large constituency, a great many of whom depended entirely for support on their crops, and he trusted the House would not interfere with their interests, which would have the effect of destroying their fortunes and injuring their conditions. Connected as he was with large landed proprietors, he should ever stand up for the small farmers, and he hoped the House would not by adopting the plan of legislation now proposed, drive them to the workhouse instead of leaving them in their present condition. He also should notice that much of the discontent on this subject was more in reference to the price of bread than to the price of corn. He thought bread was much dearer in London than it ought to be, and this was proved by the letter of Mr. Chadwick to the poor-law guardians of Bermondsey.

Mr. CLAY shortly replied, and the House divided—
 For the motion 89
 Against it 223
 Majority —134

LANDLORD AND TENANT.—Mr. Aglionby's *Recovery of Tenements Bill* consists of two sets of provisions: the first applicable to tenements under the value of 20*l* a-year, and the other set to tenements above that value. We doubt whether the bill is extensive enough, because the provision seems to be made to hang upon the condition that the tenancy shall have expired, or been determined by a notice to quit; but owing to the peculiar manner in which the small landlords (and in many parts of the country this body of persons is happily very numerous) let their little houses, there is neither a stipulated tenancy nor a computable commencement of any defined term. The provision will fail on that account; and this is a chief class of cases which require the aid of the law. The difficulty might be obviated by taking the payment of rent to be the criterion of the term of tenancy: thus if the rent were payable weekly, it might be regarded as a monthly tenancy, and on the expiration of a month's notice the provision should apply; so if the rent were payable monthly, it might be regarded as a quarterly tenancy;

and if quarterly, as a yearly. It is clearly necessary that a rule of this kind should be prescribed; if it be not, the justices will be often puzzled, and the law become imperative. With respect to tenancies above 20*l* a-year value, which the bill proposes to leave to the jurisdiction of the superior courts, with power to the judge to require the defendant to give security for costs, we are disposed to think the measure too narrow. It is a little hard that the owner of a 21*l* a-year house should be denied the cheaper remedy which is given to the owner of a 20*l* a-year house; nor for that matter, while we would deny no facilities to comparatively small people, do we think that greater folks should be deprived of any which can be afforded them. We think the poor are by this contrivance deprived of a protection which they would have on the resort of richer people to same tribunal. These are the people who will appeal if an injustice be done—or will apply to the Legislature for the improvement of the tribunal, if it be inadequate. At present the bill squints.

AGRICULTURAL EXPERIMENT.—The following simple but very important experiment, which has been communicated to us by an extensive and intelligent farmer in the neighbourhood, demonstrates, we think, the necessity or propriety of proving the different kinds of spring corn intended for seed before sowing. It may be proper to state that the trial, of which the result is subjoined, was made by planting a given number of corns in pots, within doors; and as this may have assisted the germination, a certain allowance ought to be made on that account; at all events, we think great care should be taken not to sow any of the very light grain.—*Montrose Review.*

Of 40 corns of Scotch barley, 54lb per bush, 40 sprouted.							
40	”	English	”	52lb	”	38	”
40	”	Scotch	”	51lb	”	40	”
40	”	Chevalier	”	50lb	”	23	”
40	”	Chevalier	”	49lb	”	11	”
40	”	English	”	46lb	”	27	”
40	”	Scotch	”	46lb	”	23	”
60	”	Common oats	”	38lb	”	58	”

THE TREE CABBAGE.—The ordinary meeting of the Linnean Society was held on Tuesday evening, A. B. Lambert, Esq., V.P., in the chair. The chairman exhibited a specimen of the tree cabbage of Jersey, from Sir Wm. Symonds, the stem of which was nine feet four inches long, the diameter at 18 inches from the root being nearly two inches. The writer also stated that one had been grown by Lord Lauderdale which was 13 feet 6 inches in length. A description was also given of the courie of Australia, the circumference of one of which lately measured was found to be about 42 feet 10 inches at about eight feet from the ground, whilst the height was about 64 feet. Several specimens were exhibited from Mr. Bennett, collected by him in the South Seas, amongst which was some native arrow root, which has recently become a considerable article of trade from the islands of the Indian Archipelago; yellow nankin cotton, mountain plantain, &c., copious descriptions of which were read.

HERCULEAN FEAT.—On Monday last, the 29th ult., the little village of Northlew, in this county, was the scene of much gaiety and amusement, by the accomplishment of the following extraordinary feat, by Mr. Henry Evely, of that place. A bet of 5*l* having been previously made between him and Mr. Robert Leach, of Blacktorrington, that he would, within the short space of one hour, in his threshing machine, thresh 100 bushels of oats, and bind the straw into bundles, the performance came off on this day, witnessed by almost all the yeomanry in the neighbourhood—and, extraordinary to relate, that within 47 minutes Mr. Evely thrashed 133½ bushels, and bound the straw into 240 bundles—a feat unparalleled in the annals of agricultural labour. The machine was erected by Mr. John Lavis, of Crowden Mills, Northlew.

ON MANURE FOR WHEAT.

We can strongly recommend the following paper, on the choice of manure, to the notice of our readers. It is from an able work on the varieties, properties, and classification of wheat, by Colonel Le Couteur:—

“The effect of different manures on wheat is very remarkable; it will not be necessary to say much on the subject, as it is almost exhausted, having been fully treated by far more able pens; but having made some experiments on the subject, I may be excused from publishing their results.

“I confine my observations to those manures which are within the reach of most farmers, with one or two exceptions.

“Stable manure will, in ordinary good soils have the effect of causing the plants to tiller much, or to make straw and grass, thereby diminishing the produce in grain and meal considerably.

“Liquid manure, one third stable drainings, and two-thirds water, which I caused to be poured once over wheat that was just tillering, made the straw grow rank and coarse, the grain of every variety of wheat was dark and thick-skinned, hence containing less meal. The same quantity and mixture of liquid manure poured a second time over another portion of wheat, caused it to grow so rank and full of leaves, rather than straw, that only a few of the plants produced ears of wheat, some having run up into sharp points, with merely the rudiments of ears indicated. The few ears that produced corn, displayed in its worst form, hardly in the shape of meal, of a doughy soft texture, evidently unfit for the food of man; besides, some of them were smutty. Thus, an over application of manure, excellent, when judiciously applied, becomes a poison, precisely in the same manner as in the human constitution, a surfeit is usually the parent of some disease.

“The wheat on either side of these experiments, which had only been manured with the ashes of kelp, or sea-weed, was healthy, productive, and farinaceous in the highest degree.

“My attention was particularly called to the proper application of manures by an old and experienced farmer, who considered kelp or the ashes of rock sea weed, that which is cut, the best of all. I am convinced by subsequent experience, that two or three pounds worth of it per acre, spread at the proper period, about two months before sowing time, would always more than repay itself.

“It attracts moisture from the atmosphere, it materially increases the volume of the grain, and fineness of the sample; but does not add to the weight of the straw, though rendering it whiter and more nourishing to cattle. It causes the wheat to assume a rich healthy appearance, and is an excellent application after a crop of potatoes or parsnips, both of which require land to be richly dressed with stable or other strong manures, and has not the effect of decomposing them, as lime does.

“It is also destructive to insects and their eggs, which lie in the soil or turf; it forces the earth-worms and wire-worms from their lurking places to come to the surface and die; particularly when laid on in a larger quantity than I have named, some farmers being in the habit of putting on double, even treble the quantity above stated—but I believe without having produced proportionably larger crops from inferior land; though it has been asserted that its effect is very permanent, being especially apparent on the succeeding clover crops.

“I am inclined to believe that paring and burning an old ley will almost produce an equally good effect where the land is suited for it; for although the ashes may not be of that superior quality, or

possessing all those virtues peculiar to kelp ashes, and the much greater portion of ashes that can by this means be spread on the land may make amends in quantity for quality.

“An additional circumstance in favour of paring and burning is, that all the seeds or weeds, or the eggs and insects which lie concealed in the turf, are thereby destroyed more effectually than by any repeated ploughings.

“The careful experience of five years on this head has convinced me of the propriety of this practice occasionally, especially on ground infested with couch or knot-grass. From three acres of land that had been pared and burned, which produced five hundred and forty single horse loads of ashes, I obtained a very heavy crop of turnips; the following year I raised ninety-one thousand pounds of potatoes, and by an application of about forty-five bushels of lime per acre, I have since reaped fifty-one imperial bushels of wheat per acre; the straw also was of very fine growth, five feet high, and exceedingly white and bright.

“Kelp ashes should lay on the surface of the soil a month or two previous to sowing time, in order to weaken their caustic power, or they are otherwise apt to burn the young and tender shoots of the corn, as well as the larvæ of insects; but by laying a certain length of time on the surface exposed to the action of the atmosphere, or perhaps, what would be better practice, merely lightly turned into the soil, they become eminently beneficial.

“I am so partial to the use of ashes, that I should recommend those who have large woods or forests to employ women and children to collect the dry and broken boughs and under shrubs to be burned for the sake of the ashes, which would be found nearly equal to those of sea-weed, and could thus be procured at a much cheaper rate; besides gaining the advantage of converting what is now wasted, or neglected, into a most valuable and permanent manure, perfectly free from weeds, and destructive to insects and worms.

“Ashes are farther beneficial, in as much as they attract the moisture from fogs and dews, and retain it a considerable length of time.

“Lime is so well understood as a manure for wheat, that it would be a mere waste of time to say more on the subject than as far as my own experience goes; it appears to impart a greater degree of whiteness to the straw than any other manure. Its other excellent qualities of absorbing moisture from the atmosphere in dry weather, on light or gravelly soils, and increasing the weight of the grain, are well understood; it is to be lamented that some general rule for its application is not made known, as, in the best books I have consulted on the subject, it varies in the extraordinary proportion from fifty-six to five hundred bushels per acre, which last appears to me to be an absurd quantity.

“I have found it to answer perfectly at the rate of forty or fifty bushels an acre on a good loam, and I should apprehend that double that quantity ought to be sufficient for the poorest land, unless it be to destroy moss, when a still larger top dressing is required, which, if well harrowed in, does it effectually. This commixture of turf and lime, if soon after ploughed in, in turn becomes itself a manure for the very soil the turf previously rendered barren.

“Soot is said to be an excellent top-dressing. I have tried it but once, without having perceived the advantageous results that are said to be derivable from it; it is only in the environs of towns or villages that it can be obtained in sufficient quantity to be available to a large farmer.

CASTLE-DOUGLAS ANNUAL SEED SHOW.

This exhibition took place on Monday, March 27, and notwithstanding the unpropitious nature of harvest 1836, the several kinds of grain that were presented for examination, were, in regard to quality, really excellent. The following is a copy of the report which was submitted by the judges, after they had examined the lots that were brought forward:— Messrs. Alexander Sproat, Brighthouse; Anthony Rigg, Torrkatrane; Robert M'Knight, Airyland, having been appointed judges of the Seeds exhibited here this day, after a careful examination of the lots brought forward, came to the following decisions;—

POTATOE OATS.

1st Prize, Mr. M'Guffog, Nethertown, Kirkpatrick-Durham.

2d Do., Mr. M'Myn, Arkland, Kelton.

3d Do., Mr. Herries, Haugh of Urr Mill.

HOPETOWN OATS.

1st Prize, Mr. Herries, Haugh of Urr Mill.

2d Do., Mr. Green, Castle-Douglas.

COMMON BARLEY.

1st Prize, Mr. Biggar, King's Grange, Urr.

2d Do., J. Muirhead, Esq., of Logan, Buittle.

3d Do., Mr. Turnbull, Whitepark, Kelton.

CHEVALIER BARLEY.

1st Prize, Mr. Biggar, King's Grange, Urr.

2d Do., Mr. Hutton, Ingleston, Kelton.

3d Do., Mr. Aitken, Auchlane, Kelton.

RYEGRASS SEED.

1st Prize, Mr. Biggar, King's Grange, Urr.

2d Do., Mr. M'Guffog, Nethertown, Kirkpatrick-Durham.

The judges considered the imported oats exhibited entitled to a premium, although *inferior* to the lots exhibited for the stewartry. The judges have no hesitation in saying that the lots exhibited, considering the extremely unfavourable season, are of much better quality than might have been expected.

As regards the imported oats exhibited, there was only one sample belonging to Mr. Kissock of Meikle-Richorn, and grown by Mr. Hepburn of Cumrue. It was evident, on examination of them, that not much pains had been bestowed in cleaning and preparing them for exhibition; but, independent of this, they were decidedly inferior in real quality; and, in comparison of the sample of potatoe oats, belonging to Mr. M'Guffog, were as four shillings are to five.

The attendance of farmers, to witness this interesting sight, was very great; and it was astonishing to see how eagerly every sample was in its turn by them examined—no doubt with the prospect, by another season, of carrying off the first premium.

The landed proprietors, who so kindly, from year to year, contribute to the laudable object of improving the growth of grain seeds in the stewartry, merit the thanks of every agriculturist. Their names will be seen in the subscription lists. The farmers, too, in liberality of subscription, set a good example.

The general good feeling that prevails among all parties who take an interest in the exhibition, is a sure token of its usefulness, and almost afford a guarantee of its long continuance. To Provost Heweston, for his continued perseverance in this matter since its first establishment, all parties are much indebted—all acknowledge this; and it must be a source of pleasure for him to know, that his services meet the approbation and receive the thanks of all the friends of improvement.

We had almost omitted to notice a quantity of potatoe seed shown by Mr. Andrew Duff, Danevale

Park, which he seems to have taken in excellent condition; and we are astonished how he could have collected so large a quantity in so indifferent a season. We trust his exertions will lead him to the discovery of a potatoe that will prove permanent and useful.

SHOOTING DOG.

The following decision *à nisi prius* is of some interest:—

Trespass for shooting the plaintiff's dog.—Plea—That the said dog was of a mischievous disposition, and unfit to be at large, whereof the plaintiff had notice; that the dog attacked the defendant, and would have bitten him, had he not defended himself; wherefore, in self-defence, and to protect himself from being bitten, he killed him. Replication—*de injuria*. On the part of the defendant evidence was tendered to show that the dog was of a mischievous disposition, and had bitten others. It was objected that such evidence was inadmissible, as being irrelevant to the issue.

Lord DENMAN, C. J.—I think it was unnecessary to state in the plea, either that the dog was of a mischievous disposition, or that the plaintiff knew it; for the fact of the dog having attacked the defendant would be a sufficient justification for shooting him in self-defence, whether the dog was of a mischievous disposition or not: but you ought to have demurred to the plea for setting out irrelevant facts; having taken issue upon the plea, I cannot say that the evidence is immaterial.

It appeared that as the defendant was passing the plaintiff's house, the dog ran out and bit the defendant's gaiter, and that, on defendant's turning round and raising a gun, which he had in his hand, the dog ran away, and that, as he was running away, and before he had got more than five yards off, the defendant shot and killed him. And it was contended that the above evidence did not support the plea; that it ought to have been proved that, at the time the defendant shot the dog, he was in the act of attacking him; whereas here it appeared that he was running away; and *Vere v. Lord Cawder*, 11 East. 568, and *Wright v. Ramscott*, 1 Saund. 84, were cited.

Lord DENMAN, C. J.—I think that the plea has not been proved, and the only question, therefore, for the jury will be one of damages. The circumstance of a dog being of a ferocious disposition, and being at large, is not sufficient to justify shooting him; to justify such a course, the animal must be actually attacking the party at the time. Verdict for the plaintiff—Damages 1s. *Morris v. Nugent*, 7 C. & P. 572.

The late MAJOR AUBREY, of sporting notoriety, thus speaks of that valuable medicine, *Harvey's Restorative Cordial*:—"I attribute shattered nerves and general debility to the morning club and the evening rubber. I was obliged to discontinue the amusement, and after consulting half the medical men in London, I tried in despair HARVEY'S RESTORATIVE CORDIAL, which set me on my legs again, and enabled me to undergo the fatigue of writing these pages, which will I hope be serviceable as a warning to youth against play, and to age, debility, or premature decay, as pointing out a means of relief."—*Short Whist by Major A******

TO THE EDITOR OF THE BRISTOL
MERCURY.

SIR,—As our legislators are passing act after act of parliament for intersecting the country and approaching our principal cities and towns with railroads, I consider I shall be rendering the public a service by putting them in possession of means by which many a valuable house may be saved from destruction; and, however novel the attempt may appear to an English mind, I hereby state I have witnessed the removal of 10 brick-built houses in the United States of America, seven of which were 3 stories high, adjoining each other, and were removed back 7 feet; the other three were separate buildings 4 stories in height, 25 feet in width by 40 feet in depth. So safe was the operation that the furniture was not removed, while the inhabitants resided in each house during the whole of the process, and upon placing a basin of water on a table in one of the rooms there was not the least vibration visible upon the water. I shall feel pleasure in shewing any gentleman my plans, sections, and specifications, explaining the method by which the undertaking is accomplished, on his calling at my residence, Mondays and Wednesdays, between the hours of eleven and three o'clock.—I remain, sir, yours, respectfully,
JOSEPH HARTLAND.

Castle-Green, March 20.

CENTRIFUGAL WATER MACHINE.—A number of gentlemen lately availed themselves of the invitation of Mr. W. Hodson, of Upwell, to witness the working of a water machine, lately erected on his farm, by Mr. Whinfield, of Wisbeach. The machine being on an entirely new principle, considerable curiosity was felt to witness its powers, for though several that were there had seen the effect of the model, they were struck with the quantity of water thrown up by this enlarged machine. The quantity raised, three feet six inches per hour, with six horses, was estimated at about 40,000 cubic feet; but it was the opinion of the scientific men present, that its powers might be almost indefinitely increased. This might be effected by enlarging the aperture at the bottom by which the water is admitted, and increasing the velocity of the machine. It requires, however, a few more experiments to ascertain the extent of its power: and it is hoped enough public spirit will be found to perfect a machine which promises to be so useful in a district so dependent on artificial drainage. The company were highly gratified by the exhibition, and felt much indebted to Mr. Hodson and others who had, with so much trouble and expence, provided so rich a treat. It is understood that it will remain for some time in its present situation, that other gentlemen may have an opportunity of witnessing its powers. The novelty of the principle—the singularity of the machine—and the flowing of the water, form altogether a scene so striking, that to be appreciated it must be seen. The principle is not only different, but essentially different from either the pump or the water wheel, and were there nothing else it would amply repay a journey to Upwell, to witness so strange a phenomenon. To see water rushing up without the aid of valves or buckets, appears truly surprising, not merely to the vulgar, but also to the man of science, who, struck with the simplicity of the principle, is surprised how it could have so long escaped his notice. Another recommendation of the above machine is, the small expence at which it can be erected, which with some may operate in its favour. Great praise is due to Mr. Brewin, the inventor, who has spared no pains or expence to bring the machine to perfection, and who at his sole cost erected one on his own premises, capable of raising ten barrels of water per minute, by means of a crank and two men.

ALE AND SACK.

(FROM MR. AINSWORTH'S "CRICHTON.")

Your Gaul may tipple his thin, thin wine,
And prate of its hue, and its fragrance fine,
Shall never a drop pass throat of mine
Again—again!

His claret is meagre (but let that pass,)
I can't say much for his hippocrass,
And never more will I fill my glass
With cold champagne.

But froth me a flaggon of English ale,
Stout, and old, and as amber pale,
Which heart and head will like assail—
Ale—ale be mine!

Or brew me a pottle of sturdy sack,
Sherries and spice, with a toast to its back,
And need shall be none to bid me attack
That drink divine!

SONG OF THE MONTH.

MARCH.

March, March! why the deil don't you march
Faster than other months out of your order?
You're a horrible beast, with the wind from the East,
And high-hopping hail and slight sleet on your border:
Now, our umbrellas spread, flutter above our head,
And will not stand to our arms in good order;
While, flapping and tearing, they set a man swearing,
Round the corner, where blasts blow away half the border!

March, March! I am ready to faint,
That St. Patrick had not his nativity's casting;
I am sure, if he had, such a peaceable lad
Would have never been born amid blowing and
blasting:
But as it was his fate, Irishmen should emulate
Doing what Doom, or St. Paddy may order;
And if they're forced to fight through their wrongs for
their right,
They'll stick to their flag while a thread's in its border.

March, March! have you no feeling,
E'en for the fair sex who make us knock under!
You cold-blooded divil, you're far more uncivil
Than Summer himself with his terrible thunder!
Every day we meet ladies down Regent-street,
Holding their handkerchiefs up in good order;
But, do all that we can, the most merciful man
Must see the blue noses peep over the border.
—*Bentley's Miscellany.*

CAUTION TO OSTLERS, CARMEN, AND OTHERS.
—Some time ago a person in the village of Polmont, in Stirlingshire, purchased a horse for a trifling sum, and went about with it in a cart selling garvies. It seems that the beast had been sold while affected with glanders, and the young man who had bought; it became, by contact with the virulent matter, inoculated with the disease, and last week died in a shocking state.—*Scotsman.*

COMMUTATION OF TITHES.—The total number notices under the English Tithe Composition Act received by the commissioners is 753.

AGRICULTURAL REPORTS.

GENERAL AGRICULTURAL REPORT FOR MARCH.

The atmospheric temperature of this month has been the most March-like we ever recollect to have witnessed, and, consequently, very favourable to ploughing the land for Lent corn. The sharp frosts have tended much to fertilize the soil and break the clods, as also to bring the cold clays and other wet lands into fine condition for the reception of the seed. Though the heavy falls of snow which took place on the 20th, 21st, and 22nd, in some degree retarded the progress of field labour, yet the usual work of the month was mostly brought to a conclusion some time before its close. A few patches of wheat, which were inundated in February from the effects of the heavy rains which then prevailed, are looking somewhat sickly; but, with these exceptions, the plants are strong, and promising an abundant growth.

We have heard of but few ravages having been committed by the insects this month.

The yeaning of the ewe flocks on the South-Downs of Sussex is now at its height, and has been productive hitherto of a strong and healthy fall of lambs, though much care has been required on account of the severity of the weather.

We rejoice to be enabled to state, that but few, if any, cases of sheep rot have occurred during the whole of the month.

Owing to there being but little grass in the pastures this month a considerable quantity of dry fodder has been given to live farm stock, which has been healthy.

Mr. Clay's motion on the Corn Laws—which was debated on the 16th—met with that fate which every person of rational sense previously anticipated, it having been defeated by a majority of 134. The alteration proposed by the hon. member in the present laws—which alteration, no doubt, appeared to him very feasible—was a fixed, instead of the present fluctuating, duties. What, we will ask any person who is acquainted with the subject, can be more equitable, not only to the farmer, landowner, but to the community at large, than the present Corn Laws, which afford protection to all parties? Cheap bread is, we grant, very desirable, but sure we are, that no true Englishman would for a moment wish to ruin a nation's strength and wealth for the purpose of obtaining it. Those who practically understand the subject will, we conceive, coincide with our observations. Every man, who has the good of his country at heart, ought to rejoice, that a proper protection is afforded to the tillers of England's soil, by whose industry and skill the inhabitants of this mighty empire are principally supported.

Both the London and provincial markets in the course of the month have been moderately supplied with most descriptions of produce, the best of which has been disposed of at fully the prices of last month; but in the inferior kinds trade has been exceedingly dull, and a trifling depression has been submitted to in extensive transactions.

The following is a retrospective statement of the supplies and prices of fat stock exhibited and sold in Smithfield Cattle Market in the course of the month:—

SUPPLIES.

	Beasts.	Sheep & Lambs.	Calves.	Pigs.
Feb. 27. ..	2780	25300	150	210
March 3. ..	684	2650	152	286
— 6. ..	2850	22500	162	340
— 10. ..	710	1996	49	212
— 13. ..	2896	23000	102	384
— 17. ..	695	3570	52	250
— 20. ..	2741	22900	130	396
— 24. ..	530	3962	70	210
— 27. ..	2700	18600	110	330
Total ..	16586	124478	977	2618
Supply of preceding month. }	14455	108501	1092	2560

By the above comparison it appears, that the supplies of the present month have been composed of 2,131 beasts, 15,977 sheep, and 58 pigs more; 115 calves less than those of that which immediately preceded it.

That portion of the above supplies which has arrived from Norfolk in the before-mentioned period has consisted of 5,710 Scots and homebreds; whilst from Suffolk, the number has been 610 Herefords, Devons, and Scots; from Essex, 285 Devons, runts, Scots, and Herefords; from Cambridgeshire, 195 runts, Devons, Scots, and Irish beasts; from Lincolnshire, 1,750 short-horns and runts; from Leicestershire, 635 short-horns; from Northamptonshire, 620 short-horns, Devons, and runts; from Derbyshire, 145 Herefords, short-horns, runts, and Scots; from Staffordshire, 170 runts, homebreds, short-horns, and Staffords; from Warwickshire, 140 short-horns, Irish beasts, Herefords, and Devons; from Oxfordshire, 77 short-horns, and Irish beasts; from Buckinghamshire, 87 runts, Herefords, Scots, and homebreds; from Worcestershire, 76 runts and homebreds; from Shropshire, 58 Scots and Devons; from various parts of Wales, 90 exceedingly prime Pembroke runts and Devons; from Monmouthshire, 51 Herefords and Irish beasts; from Gloucestershire, 130 runts; from Somersetshire, 155 Herefords and runts; from Devonshire, 500 North Devons, and Devonshire steers, cows, and heifers; from Dorsetshire, 92 Devons and runts; from Hampshire, 114 Scots, runts, Devons, and Devonshire steers and heifers; from Wiltshire, 87 runts; from Berkshire, 215 Scots, Herefords, runts, and Irish beasts; from Sussex, 200 oxen, steers, and Devons; from Surrey, 170 Scots, Devons, and runts; from Kent, 120 Devons, cows, and heifers; and from Dundee, Perth, and Leith, 970 Aberdeen, West Island, and Fifeshire Scots. The remainder of the bullock supply, embracing about 500 town's-end, and as many milch, cows, was derived from the cattle-lodgers, stall-feeders, cow-keepers, marshmen, &c., residing a few miles from the metropolis.

PRICES.

Per 8lbs, to sink the offals.

	Feb. 27.		March 27.	
	s. d.	s. d.	s. d.	s. d.
Inferior Beef	2 4	2 6	2 4	2 6
Middling, do.	2 10	3 6	2 10	3 6
Prime, do.	3 8	4 4	3 8	4 2
Inferior Mutton	2 10	3 0	2 10	3 0
Middling, do.	3 6	4 4	3 6	4 4
Prime ditto,	4 8	5 0	4 8	5 0
Lamb			7 6	8 0
Veal	4 6	5 8	4 6	5 8
Pork	3 6	4 10	3 6	5 0

Here follows a comparison of the supplies and prices in Smithfield on the dates beneath stated.

At per 8lbs, sinking the offals.

	March 28, 1836.		March 27, 1837.	
	s. d.	s. d.	s. d.	s. d.
Coarse and inferior beasts	2 6	2 8	2 4	2 6
Second quality do.	3 0	3 8	2 10	3 4
Prime large oxen	3 10	4 2	3 6	3 10
Prime Scots, &c.	4 4	4 8	4 0	4 2
Coarse and inferior sheep	3 6	3 10	2 10	3 0
Second quality do.	4 6	5 0	3 6	3 10
Prime coarse-wooled do.	5 6	5 8	4 6	4 4
Prime South Downs do.	5 10	6 2	4 6	5 0
Lamb	6 4	6 10	7 6	8 0
Large coarse calves	4 4	4 10	4 6	4 10
Prime small do.	5 0	5 4	4 5	4 8
Large hogs	3 6	4 2	3 6	4 2
Neat small porkers	4 4	4 8	4 8	5 0

March 28, 1836. March 27, 1837.

Beasts	2,580	2,700
Sheep & Lambs	14,420	18,600
Calves	185	110
Pigs	320	330

The supply of the first market-day above-mentioned was composed—as is perceived by the above comparison—of 120 beasts, 4,180 sheep and lambs, and 10 pigs less; 75 calves more than that of the latter.

More prime Scots have appeared in Smithfield this month from Norfolk than we ever recollect to have witnessed at a similar period of the year; whilst the stock, generally speaking, has been of fair average time of year quality.

The number of pigs which has reached London from Ireland in the course of the month has been about 720.

The supplies of sheep which have come from Essex, Sussex, Kent, Surrey, Hampshire, Devonshire, Berkshire, Wiltshire, Somersetshire, Bedfordshire, and our great northern districts, have consisted of south-downs, old and new Leicesters, Kents, Kentish half-breds, old Lincolns, Dorsets, horned Somersets, white-faced Gloucesters, and English-fed Scotch and Welsh sheep, with 1,025 by steam vessels, from Scotland; those of lambs, of Dorsets.

In store stock, as also milch cows, but few transactions have taken place.

The following are the quantities of slaughtered meat brought to Newgate and Leadenhall Markets from the undermentioned quarters during the month, nearly the whole of which, except the sheep and pigs from Scotland and Yorkshire, have arrived in hampers.

	BEASTS.		SHEEP.		CALVES.		PIGS.	
	Number of Carcasses.	Number of Carcasses.	Number of Carcasses.	Number of Carcasses.	Number of Carcasses.	Number of Carcasses.	Number of Carcasses.	Number of Carcasses.
Scotland	135	3800	—	—	—	—	425	—
Yorkshire	75	3070	—	—	—	—	1540	—
Essex	55	490	280	830	—	—	—	—
Berkshire	98	670	665	286	—	—	—	—
Wiltshire	92	574	1370	470	—	—	—	—
Gloucester	61	512	850	436	—	—	—	—
Hampshire	78	700	1520	730	—	—	—	—
Sussex	40	500	320	400	—	—	—	—
Total	637	10316	5615	5217	—	—	—	—

In addition to the above heavy supplies, about 650

packages of prime roasting and boiling pieces of beef have arrived.

SOMERSETSHIRE.

After many bitter cold nights and days we had a heavy fall of snow, such as we have rarely seen so late in March. Previous to this the spring sowing was backward, and now the land will, when the snow has melted, become so thoroughly drenched with wet, as to require a full fortnight on the retentive soils before it is fit to bear the tread of working cattle. All this is against the crops of beans and barley which remain to be sown, and of the latter very little is yet in the ground. Although the month of March, has on the whole been favourable to wheat, it does not look well, being thin and rather weak; this however is but of little consequence, appearances at this stage of its growth being often illusory. What will tell at harvest is the great breadth intended last autumn for wheat, which owing to the heavy rains in November and December has not been sown. The ricks of hay on the stock farms have become exceedingly small, and this second winter is quite appalling to those who from want of turnips have been obliged to support their flocks in great part on this and other kinds of dry food. Store sheep are, as might be expected, generally in low condition, and on many farms the losses both in ewes and lambs have been heavy. During the last three months, the butchers' shambles have exhibited a pretty extensive supply of all articles rather under the usual degree of fatness. We have, however, within a few days, seen some superb fat beasts, one a Durham heifer, the estimated weight of the four quarters 1,360 pounds, intended to grace the assize tables. Articles of this extraordinary description may find a customer at probably more than 11s a score; but good beef, quite ripe, is to be bought and were for 10s, and inferior at 2s a score under that price. Very complete Down wethers command 7d a pound, while the prime long wools, of from 23lbs to 28lbs per qr, hardly exceed 6d. Store cattle differ very much in price. Prime heifers, with their calves, are both scarce and dear, and readily bring 7s 6d a score, according to the estimated weight when fat, while old cows, not boasting any merit of breeding, do not so easily attain to two-thirds of that price. The same observation applies to cattle intended for grazing. Good plough steers are among the things best sold, and will fairly repay the breeders this spring. The state of the wheat markets may be learnt from the fact that the unions for the quarter ending at Midsummer have contracted for the four pound loaf at from 6d to 7d. The numerous public works going on in this county, together with the usual farm operations, have supplied abundance of labour during the winter, and all honest industrious persons may readily get employment. There is indeed a tendency in wages to advance, and if the vicious practice of paying so much of them in cider were to be discontinued, wages would immediately be raised, and as we cannot but believe, the labourers and their families proportionally benefitted. It is generally admitted that great good has resulted from the formation of poor law unions in Somersetshire. Numerous abuses are being removed, expensive law proceedings prevented, the aged and helpless better provided for, and the healthy labourer taught to respect his own independence. The long prevalence of influenza has greatly increased the amount of relief during the present quarter; but after all, a great

saving will be effected, with benefit both to the payers and receivers of poor rates.—March 24.

SOUTH HAMS.

During the last fortnight the weather has been very favourable for field labour, and considerable progress has been made in preparing the land, and ploughing for barley, and we consider that nearly two-thirds of the land intended for barley is now (20th March) actually ploughed, and many farmers have commenced sowing; rather more than the usual breadth will be sown with barley in consequence of the very wet state of the land during the preceding three months, so much so as to prevent its being tilled to wheat; many who have sown a great deal of Chevalier barley for the last two or three years, do not intend to venture with much of it again, but to sow chiefly the American and early Hampshire, as the yield of the latter this season has been so much better, as to more than counterbalance the superior worth of the Chevalier, which generally fetches from 2s to 3s per qr more than any other sort. Our markets for barley still remain exceedingly dull, 3s 9d per bushel being the top price given, and a great quantity of rather inferior quality has lately been sold at 3s 3d and 3s 6d. The early sown wheat looks well, but a considerable quantity of the latest is not yet above ground; the markets for wheat have, for the last two or three weeks, been a little more animated, the millers have been buying freely at 8s 3d per bushel, for wheat, and 7s 10½d for red. As we anticipated in the autumn, the price of hay is now rather declining, which can be attributed only to the very great caution with which it has been used. A respectable farmer near Kingsbridge, who tills upwards of one hundred acres of corn annually, and must of course, in fact we know he does, keep an excellent team of horses, told us last week, that all his horses had not eaten one cwt. of hay since Christmas; we never recollected a season when so many substitutes have been used for hay as during the present winter—chaff, Swede turnips, boiled potatoes, bran, malt dust, offal barley, and oats, have been the principal provender which farmers' horses have consumed; indeed, now there is scarcely any sale for hay, except at Plymouth, which after paying the freight (for it is generally sent by water,) will not fetch more than from 4l 10s to 5l per ton, and there is a considerable quantity left unsold here, and the holders are greatly disappointed in not making 7l per ton, as they expected to have done. The lambing season is just now over, and on the whole, it may be considered a good fall of lambs, and have generally been well saved; there was a large share of couples at Dodbrook market, which were mostly sold at from 35s to 42s per couple. There was also an excellent show of fat bullocks, even more than equal to the demand (although a great many were sold) and this we attribute again to the same cause which we have assigned for the hay holding out as it does, viz., the idea which prevailed at Michaelmas last, that from the great scarcity of winter keep, it would be next to impossible that many bullocks could be fed during the winter, and an enormous price was expected for beef in the spring; and it was precisely the same with regard to mutton, but now our markets are all well glutted, and scarcely 7d per lb (sinking the offal) can be realised, notwithstanding the high price of wool. Grass is very scarce; and the few turnips we had are all but done; the vetches are very thin and backward, consequently the store sheep are now suffering much from want of keep, and which we fear will cause a deficiency in the next clip of wool,

if not injure its quality. There does not appear to be any want of potatoes as yet; our dealers at Kingsbridge are still well supplied at about 3s 4d per cwt which are chiefly sent to the London and Portsmouth markets.—*Plymouth and Devonport Journal.*

YORKSHIRE AGRICULTURAL REPORT FOR MARCH.

Since our last report, until the first week in March had expired, the prevailing character of the weather was wet. On the 13th there was a covering of snow, which, however, did not last long. The succeeding week was drying, and warm, caused by the heat of the sun, but the air was sharp, and the nights frosty. On the 20th there was another covering of snow, which soon disappeared, and the general character of the month inclines to cold. A N. or N.E. wind has prevailed throughout the month. The effects of the weather on vegetation, as might have been expected has been most unfavourable. The wheat crops have gone back in appearance, even on the best and driest soils to a great degree, and though they rather seemed to revive during the few warm days about the 15th, still they are below what they were at the date of our last report. Rye looks rather more promising. It is however, amazing how much a few days will alter the appearance of the autumnal crops at this season of the year; probably before this report is read in Yorkshire, the above observations may be inapplicable. The seed time is going on very slowly. No barley,—very few oats, and not the regular quantity of beans, are put in. The frost, the wet, and the general ungeniality of the season, puts a stop to all sowing, though the plough is actively engaged, and nearly every thing is done that the season will admit of. Turnips are very fast consuming away, and Swedes, yellow Aberdeens, and Dale's hybrids, are now nearly the whole stay of the flock-master. The fall of lambs certainly seems better than was anticipated. Many of the ewes are somewhat weak from the scarcity of food, and some little deficiency of milk occurs; but there are few losses. Perhaps there are more single lambs than occurs in an average of years. Hay has rather receded in price, but will be in request if the present bleak weather, and prospects of a backward spring continue. Farm-work, with the above-mentioned exceptions, is in a state of forwardness. Markets are rather sluggish. The quantity of fat brought into market keep prices down, and as regards corn, we find that many of those who thrashed out early, and had small stackyards, are now pulling their corn out of the granaries. Our markets are overstocked with seed.—March 21.

NORFOLK.

The present is a most important season of the year to the husbandman, and one which determines with some degree of precision the probable amount of productiveness in the forthcoming harvest. Inasmuch as a dry March is proverbially the precursor of a fruitful year it is satisfactory to record that the present month has been of that description, and as far as regards the sowing of spring corn, the farmer has been able to appreciate the value of "March dust." The heavy land farmers have availed themselves of the opportunity, which the late dry weather has afforded them for tilling their land, and for getting in their barley and oats, which operation is already completed in a very satisfactory manner to a considerable extent; and even in those districts where it is customary to give the land three ploughings before it is seeded, that work has partially commenced with every prospect of being in full operation in a few days. To this extent at least the aspect of rural affairs may be

deemed satisfactory; the farmer, however, is looking to his wheat fields with much solicitude, but with no very flattering anticipations as to their ultimate productiveness. The early sown wheats have maintained their ground and although unusually backward, are still looking remarkably well; but all those which were put in after the third week in October, are lamentably deficient of plants, even to the extent that in many instances it has been deemed advisable to plough the land and take a crop of oats. The layers also are nearly in the same predicament; some of the sets are good, but held in check by the long continuance of cold weather, but a large portion is deficient in plant, and can never produce much grass if fed, or more than half a crop of rye-grass hay of inferior quality, if suffered to come to the scythe. The season is altogether unusually backward, and were it not that the last crop of hay was somewhat plentiful, the want of keeping would be most severely felt, and even as it is, expedients are resorted to which necessarily involve an additional expence, in order to supply the deficiency of natural provender. The reports from the lambing districts are upon the whole somewhat favourable, although exceptions might be adduced in which serious losses had occurred previous to the commencement of the season, in consequence of the unhealthy condition of the ewes, arising out of bad lodging from the great excess of moisture. The number of sheep which were penned for sale at (Norwich) Tombland Fair, 23rd instant, exceeded anything we almost ever remember to have witnessed, but owing to the universal complaint of the scarcity of keeping, very few indeed found purchasers. A pen or two of extraordinarily fine hoggetts, in their wool, fetched something like 60*s* a score, but generally speaking, the trade was dull, and lower prices were reluctantly submitted to. There was also a good show of lean cattle the greater number of which were driven off the ground unsold. Cows and calves, or springing heifers, met a readier sale, as the supply was very limited. Horses about the usual number, but very few above what may be reckoned of a secondary description, either in roadsters or of the cart-kind. The former are in demand, and seem to be increasing in value. We have now had four nights in succession of extraordinary severity, which after a winter so protracted in duration, cannot do otherwise than prolong the inconvenience which the holders of lean stock experience from the deficiency of cattle food. —Dilham, March 24.

SUFFOLK.

This month hitherto has been very cold, but dry, planting beans and peas and sowing Lent corns have proceeded rapidly; indeed the week now closed will generally bring it to a termination. In the heavy land districts of this county the lands are not in first-rate condition for the reception of the seed, from the almost continued rain during the autumn and winter months. The turnip lands which were not cleared of turnips nor ploughed up before Christmas, will, with but few exceptions, work miserably bad, and unless very genial weather ensue, the prospect for the crop is by no means flattering. The wheats are looking tolerably well, except spots where the snow was drifted to a great depth, and consequently laid a considerable time, it appears nearly all perished. We hear complaints of the failure of the young clover layers; however, some are strong, healthy, and promising. Winter vetches and rye are looking well, and if the weather be propitious will produce early feed. From the quantity of rain but little has been done in forwarding lands intended for mangel wurzel and Swedes. From the like cause, sheep in particular, but indeed all kinds of stock have not done well. But few turnips remain, and the want of keep for stock during the next month will be, it is feared, much felt. Graziers complain loudly of the bad return they are making for the outlay of their capital; first from the scarcity of provisions which they ought to produce off their farm, also from the extraordinary high price at which oil cake has been selling during the autumn and winter. Many meetings have been, and are being held, for the purpose of effecting a voluntary agreement for

the commutation of the tithes, and from what we can learn (and we have made very many inquiries, being somewhat interested ourselves), all are satisfied they shall have more money to pay than heretofore, and we doubt many will find to their cost that they are completely deceived, for want of giving the working of the bill proper attention before they entered into an agreement for the rent-charge. We are sorry thus to differ from what you have frequently advanced as to the beneficial working of the bill; but we see at present no reason to alter our former opinion, that it matters little to the farmer whether tithes are called tithes or rent-charge; yet if rent-charge takes more money out of his pocket than tithes, which it assuredly will, it does so far matter to him.—March 18.

SOUTH NORTHAMPTONSHIRE.

Since my last the weather has been very propitious for getting in the spring corn, which is now progressing very rapidly, with the exception of a few of those termed afternoon-farmers, who, let the season be ever so favourable, are always behind hand. We think the breadth of barley that will be sown this season will be quite as large as was sown last year. The sharp frosts which we have lately had (though contributing very much to the drying of the land) have greatly retarded the growth of the young wheats, which, we think, were never known more backward at this season of the year; the same will apply to the seeds and clover, the best having been obliged to be hard stocked, on account of the shortness of keep, and in consequence we are afraid will greatly diminish the weight of hay, unless we have a very favourable spring. We never saw the meadow land look better at this season than at the present time, occasioned by the large floods rendering it impossible to stock them. The lambing season is now about half over here, and considering the low condition in which the ewes are, we have not heard of such large losses as we expected, though great complaint is made of the scarcity of milk and weakness of the lambs, notwithstanding most farmers having given them corn. Our meat markets of late have been rather scantily supplied, and the trade, consequently, is rather better for both beef and mutton, the former being worth from 6*d* to 6½*d*; and the latter 7*d* to 7½*d* per lb. The markets for store stock are very dull, the graziers not being able to purchase at present on account of their hay being nearly gone, and keep very short; we are afraid they will be very dear as the spring advances, as we shall all want to buy together, and thus afford but very little chance of paying for their keep.—March 18.

EAST LOTHIAN.

For some days previous to the 10th inst., the weather has assumed a mild and favourable aspect for the advancement of farm operations, which was eagerly embraced by every industrious tenant in the neighbourhood; when, all at once, a stop was put to their anxious proceedings, by a sudden change of the weather; for, on the evening of the above-mentioned day, it began to blow hard from the North East, with a light fall of snow, which, however, continued to increase until it assumed the appearance of what is sometimes termed in Scotland "a feeding storm," and on the following day, the whole face of the country was covered to the depth of six or seven inches, with the snow still falling at intervals until the evening, when the frost set in with more keenness than it had ever done during the past winter, and which has continued with increasing intensity ever since; this morning (Thursday), however, there is a freshness in the air, with every appearance of another fall of snow, of which we have already more than enough to do us any good for the season. The store farmers in the Lam-muir Hills and other high parts of the country, are suffering severely in consequence of the present snow storm. The scarcity of hay and turnips during the past winter, has left them without fodder of any description, and we understand that a very great number of sheep are sickly and in a dying state.—March 16.

AGRICULTURAL INTELLIGENCE, FAIRS, &c.

CRICKLADE FAIR, Tuesday, March 21st, was very numerous and respectably attended, and, as was anticipated, the supply of fat cattle, particularly as to quality, surpassed even that of the first market, and excited general admiration; the greater portion met with a ready sale at from 9s to 10s per score; the supply of sheep was equally good, with a brisk sale at rather an advance of price. Owing to the severity of the weather, there was rather a short supply of heifers, which were much in request; these sold at rather high prices. Store pigs also sold well. There were several capital draught horses, which realized good prices. In the Hiring Fair there was a good attendance of neatly dressed and respectable looking females, all of whom, who possessed characters to recommend them, had the good fortune to be quickly engaged at fair wages, which would have been the case with as many more, had they been in attendance, as many an inquiring master was unable to suit himself. The result of the fair was highly satisfactory, and little doubt can exist as to the next, which will be held on the 18th of April, proving equally the same. The numbers were—beasts 495, sheep 634, pigs 120.

LOCHMABEN PORK MARKET, AND FOR SEED CORN AND RYE-GRASS SEED, March, 14.—The markets for the season having concluded today, the supply was comparatively small, but quickly disposed of, at prices from 5s 8d to 6s 3d per stone. To those respectable farmers and dealers in the district, who have so regularly attended and given such steady and efficient support to these markets, it may not be unacceptable to present a short abstract of the business done during the season; on comparing the general result of which, the committee of management have much reason to be satisfied with their yearly increasing success. The total quantity sold amounts to 11,700 imperial stones—the number of carcasses, 1,120—averaging nearly 10½ stones each; the average prices may be taken at 5s 8d per stone, and the amount of cash paid about 3,320l stg. Owing to the liberality of friends/subscribers to the fund, and well-wishers for the prosperity of the ancient burgh, the committee have been enabled fully to meet and pay the different premiums, as offered, each market day, as well as those due to Mr. Johnstone, Thornethwaite, for producing the greatest quantity during the season, and to Mr. Carlyle of Waterbeck, as the most extensive buyer, he having purchased no less than 4,188 stones; indeed to this highly respectable gentleman, for his zealous and uniform support, the success attending these markets since their establishment, may be considered as mainly attributable. The premium was awarded to Mr. Roddick, Geenhill-head, for the best 18 imperial bushels of seed oats, and that for rye-grass-seed, to Mr. Pater-son, Hightae.

DEVIZES NEW MARKET.—On Saturday, se'n-night the committee of farmers and dealers met the committee appointed by the town council, in the council chamber, to confer respecting the covered corn market, when a plan of a building was agreed upon, and it was believed by all present that a spirited subscription would be raised amongst the farmers and dealers, as soon as the town council had determined to erect such building. It was at first thought the site proposed by the town council, viz., the house and premises now occupied by Mr. Fowler, would not be large enough, but on measuring the ground, it was found to contain 1,600 feet more than the present corn market, in addition to the advantage arising from arranging the sacks in a straight line.—*Wilt's Independent*.

BRIDGNORTH FAIR was but indifferently attended by purchasers—prevented, no doubt, by Ludlow fair being on the same day. Fat cows sold at full 6d;

sheep, of which there was a tolerable good show, fetched 7½d; few good horses in the fair.

NORWICH FAIR was fully attended. The best lot of hoggets was exhibited by Mr. West, of St. Faith's. They were sold for 60s. Of Scots there was a very large show, and some very excellent cattle among them. The prices were high, some reaching 4s 6d per stone. There was also a large show of fat beasts; prime articles fetched 7s, but heavy oxen were not so much in request. There were very few good horses, and among the stallions a few were good.

WORCESTER FAIR was well supplied with good beasts, but buyers were scarce, and many were driven home unsold. There were also a good supply of sheep, which met with rather a better sale than the beasts, at prices a shade under those of our last fair. Prices may be quoted about as follows—beef, 5½d to 6d; Mutton, 7d to 7½d.

DERBY FAIR.—There was but a small exhibition of stock, particularly fat stock. Very good barren cows sold at high prices, as did also in-calvers. In lean stores very little was done, and prices low. The horse fair was not worth notice.

DERBY CHEESE FAIR, WEDNESDAY, March 22.—There was a smaller quantity of cheese than usual. Latter makes averaged about 60s per cwt, though some dry and well-kept cheese fetched a couple of shillings more money. Year's makes sold from 63s to 67s. Coloured was scarce, and sold briskly at 1s more than plain.

SUPERIOR OX.—We understand that Mr. Milner, of Spofforth, near Wetherby, has purchased of Mr. Wiley his celebrated three years old short-horned ox, (calculated to weigh upwards of 100 stone) which was exhibited at the York fair on Thursday week, and excited the admiration of all judges, who pronounced him to possess the greatest weight of prime beef, with the least offal that has been shown for some time. Mr. Wileysold him by weight for 9s per stone.

FAT OX.—A correspondent mentions a remarkably fine short-horned ox, bred and fed by Mr. Wiley, of Brandsby. The girth of this noble specimen of short-horns is 103 inches, and from the shoulder-blade to the rump 63½ inches. His supposed weight is upwards of 120 stones.—*York Chronicle*.

A PROLIFIC SHEEP.—At Waltham Bury five lambs were lately taken from one ewe.

SOUTH HAMS.—The present appearance of the buds on the apple trees, warrants the expectation of an abundant crop of apples. The price of wool has much declined, it being but 11½d per pound.—*Western Times*.

BLACK CATTLE.—As anticipated there has been a demand for three-year old cattle for Norfolk; and this description of winterings are nearly all sold. Although the Norwich markets seem yet dull, the prices given have exceeded those of last year by 8 or 10 per cent., and have left a fair return of from 30s to 135s each since the end of October, no turnips being given this year. While our drove cattle are thus a little higher than last year, it is to be remarked that fat Scots bullocks in Norwich and London have been, during February, 10 per cent. below February 1836. This may be attributed partly to the crop of turnips in that part of England not being so deficient as in the former year, and probably, also, to the increasing deficiency in this description of lean stock kept in Dumfriesshire and

Galloway. Sheep—Cheviot great ewes for lambing have been in good demand, and have left fair keep, Highland Cheviots giving from 21s to 25s. Few sales of half-bred hogs are yet made. The supply of fed sheep in London being smaller, and the prices high compared to beef, leads to the conclusion that the stock of sheep is not over abundant, notwithstanding the great impulse given to breeding several years back. At present the flocks of the higher sheep farms are in great distress from the heavy load of snow on them; and in general, for the last fortnight, the hill stocks have been falling off much in condition, owing to the state of the weather, and the unusually bare condition of the pastures. Hogs, especially on those farms, were seldom seen smaller and leaner, and unless the spring is very fine, considerable loss of stock may be anticipated. Sheep on turnips have done tolerably well where the crop was good. Fewer wethers than usual now remain, and the numerous lots of hogs scattered over the arable farms, from the deficiency of turnip, are, in most cases, partly kept on sown grasses, which they will injure much during the ensuing month. Fodder of all sorts is scarce and dear, and the barn yards are now smaller than usual at this season.—*Perth Courier*.

STALLION SHOW AT KILMARNOCK.—The Stranraer and Rhyns of Galloway Agricultural Society in offering a premium of 21 sovereigns, for an approved draught stallion to serve within the bounds of the society, had selected Kilmarnock as the most central situation for the attendance of horses from the best districts. Friday last was the day appointed, and the great interest excited on the occasion was apparent in the numerous assemblage of farmers, dealers, and others from the adjacent and other parts of the country. The society's deputation, Messrs. Robert Anderson, William M'Camon, and John Agnew, headed by Mr. Murdoch, factor, Dun-keay, appointed to select the horse and award the premium, entered the show-ground at 12 o'clock, and soon thereafter 14 horses from various parts of the country followed. The inspection occupied the deputation upwards of two hours, when they decided in favour of the eight-years old brown horse "Farmer," belonging to Mr. Filton, of Sproulstone; and it must have been gratifying to the deputation afterwards to learn that their decision was very generally approved of by the dealers and other judges present. "Farmer" is a Lanarkshire horse, bred near Carnwath, and is of the highest character for the superior quality of the numerous stock he has produced. He has travelled two years in Lanarkshire, and one year each in Dumbarton and Peebles-shires, at both of which last mentioned places, he had awarded to him premiums, and in each of the four years has averaged about 100 foals; five of these, about 16 months old, were sold in last Lammas fair of Lanark, at upwards of 25*l* each. There were also exhibited on this occasion several very fine young stallions, and the one belonging to Mr. Reid, Balgray, near Irvine, which had awarded to him the two-year-old premium at the Ayr show in Autumn last, although not considered by the deputation as the best present, was on Friday, immediately after the show, sold at about 85*l*. We have much pleasure in mentioning that the deputation of this spirited society received every mark of respect and attention from the Kilmarnock authorities, who handsomely appointed the superintendent of police and those under him to preserve order, and to afford facility to the inspection on the show-ground; and Bailie Paxton and other influential members of the Kilmarnock Agricultural Association met them at dinner in the evening at the Black Bull Inn.—*Ayr Observer*.

PLOUGHING MATCH.—In the townland of Aghandunvarran and parish of Hillsborough, Mr. Kelly, a respectable farmer, having purchased a farm of land adjoining his own, his neighbours and friends, bearing in high estimation their worthy friend, assembled on the 8th inst. on his new farm, at the hour of nine o'clock. Nineteen ploughs then started, and during the time of labour, Mr. Kelly regaled both ploughmen and spectators. Before four o'clock in the after-

noon the work was completely finished, and the inspectors said it surpassed anything of the same kind they had ever seen. At half-past four, upwards of forty persons sat down in Mr. Kelly's to an excellent dinner, after which a number of appropriate toasts were drank, viz. "The Most Noble the Marquis of Downshire, the best of Landlords,"—"The Marchioness of Downshire,"—"The Earl of Hillsborough,"—"Mr. Reilly, the best of Agents," and "the Hills, Kills, and Mills," &c., after which Mr. Kelly's health was drank with applause. He then returned thanks in suitable terms, and the company separated, highly gratified with the proceedings of the day.—*Belfast News Letter*.

PLOUGHING.—Mr. John Magill, of Islandmagee, purchased a farm of land known by the appellation of Knowhead, in the latter end of February last. The season being advanced, and he being much respected, to show their approval of his character, on Tuesday, the 7th inst. 248 well harnessed horses started with 84 ploughs, and in the course of the day ploughed about 40 Irish acres in a masterly style. The people engaged were copiously regaled by the spirited purchaser, and the day being favourable, a numerous assembly was in attendance to witness so highly gratifying a scene.

PLOUGHING AT TINWALD MAINS.—On Tuesday last, the friends of Mr. Jardine in Muirhouse head, parish of Applegarth, who is about to enter to the farm of Tinwald Mains, mustered, from almost all the parishes around, to the number of nearly 130, upon the latter farm, either in *propria persona*, or by proxy, in the character of their ploughmen, each accompanied by two prancing nags, richly accoutred, and, before five in the afternoon, turned over not less than 70 acres of ground. The scene was perhaps the grandest of the kind that has been witnessed in this quarter for many years, and strongly testifies the esteem in which Mr. Jardine is held by a wide circle of friends. Ample refreshments were provided by Mr. Jardine for both men and horses: the latter leaving the field scarcely less playful from the labours of the day—the former even more joyous than when they entered upon their task—having, ere they parted, dashed a bottle, with the inspiring liquid, against the inclosure of the ground, in imitation of the custom observed in launching a vessel into the watery element, as if to say, "success to Mr. Jardine through the course of his lease."

BLACK ISLE FARMERS' SOCIETY.—This society held their first meeting at Fortrose, for the exhibition of seed corn, and for awarding premiums. The presses and a very respectable number of the members were present, and the exhibition of grain by different individuals was very considerable and highly creditable to the growers. Messrs. Mackay and France were appointed judges, and they having inspected the different parcels exhibited, awarded the society's premiums as follows, viz. :—For the best 4 quarters of common barley, to Mr. Murray, Kilcoy Mains; 4 quarters chevalier barley, 57*lb* per bushel, Mr. Trotter, Redcastle; second best, 4 qrs do., 55*lb* per do., Provost Tullock, Fortrose; the best 4 qrs potato oats, 45*½* *lb* per do., Mr. Sheriff, Barnyards; second, 4 quarters do., 44*½* *lb* per do., Mr. Murray, Kilcoy Mains; 1st, 4 qrs Hopeton do., 42*½* *lb* per bushel, Mr. Trotter, Redcastle; 2d, 4 qrs do., 41*½* *lb* per bushel, Sir James Mackenzie, Bart.; 1st, 4 qrs Angus oats, 44 do., Capt. Sutherland, Udale; 2d, 4 qrs do., 42 do., Sir James Mackenzie, Bart.; 1st, 3 qrs beans, 63*½* *lb* per bushel, Mr. Mackay, Kessock.—About 30 members sat down to dinner in Mackintosh's inn, Capt. Sutherland, of Udale, in the chair; Mr. Middleton, of Davieston, croupier.

DINNER AND PRESENTATION OF PIECE OF PLATE TO WM. WILSON, ESQ., OF NETHER CROY.—The tenants and feuars on the estates of Nether Pollok, Upper Pollok, and Torrance, having resolved to invite Mr. Wilson to a public dinner, and to present him with a peice of plate, value 150 guineas, as a testimony of their approbation of his conduct as factor on said estates, and of his integrity, usefulness, and sterling worth during the long period that he has held these situations, on Friday, March 10,

about 100 of the tenantry and feuars, with a few of Mr. Wilson's intimate friends and relations specially invited along with him, sat down to dinner in the Town Hall of Pollockshaws. Walter Crum, Esq. of Thornliebank, in the chair, supported on the right by Mr. Wilson, the Rev. Mr. Mackellar of Mearns, and John Wilson, Esq. of Auchenedin. On the left by Robert Herrington, Esq. of Torrance, John Wilson, Esq. of Thornly, and John Crum, Esq. of Thornliebank. Messrs. William Findlay, Posthead, Arthur Mather, Nether Place, and James Wallace, Mains, Croupiers. After the usual loyal and patriotic toasts, the health of Mr. William Wilson was proposed by the Chairman in appropriate terms. On concluding, he presented the plate to Mr. Wilson, whose health was drank with the most enthusiastic cheering. Mr. W. briefly returned thanks, saying, that his feelings completely overpowered him, and prevented his fulfilling an intention to address the tenantry at some length on an occasion so deeply interesting and gratifying to him. The health of Sir John Maxwell, Sir Robert Crawford, Lady Pulteney, and Miss Stewart of Torrance, Sir Thomas Brisbane, and Mrs. Brown of Capelrig, proprietors of estates on which Mr. Wilson has long acted as confidential agent and factor, were severally given and drank amidst loud cheering. These were followed by the healths of Mrs. Wilson, Mr. Wilson of Thornly, Mr. Harrington of Torrance, Mr. Maxwell, M. P., Mr. Tennant of St. Rollox, Mr. Hew Crawford of Upper Pollok, the Rev. Mr. Makellar, and the other clergymen present, the heritors, feuars, and tenantry of the various estates, and many other appropriate toasts. The party separated about 9 o'clock, after having spent a most happy evening in the enjoyment of uninterrupted sociality, and amidst a display by the tenantry of grateful and kindly feeling towards their worthy guest.

METHVEN.—On Monday night a number of farmers and dealers at Methven and its neighbourhood, and also a few gentlemen from Perth, in testimony of their respect for Mr. James Young, Fleisher and Cattle Dealer in Methven, on his arriving at the advanced age of 80, invited him to a public dinner on Wednesday last in the Mason's Hall there. The number that sat down was about 60, Mr. Burns, writer in Perth, was in the chair. The Croupiers were Mr. Dickie, Keillour, Mr. Johnston of Tippermalloch, and Mr. Wilson, Schoolmaster, Methven. After the cloth was removed, Mr. Young's health was proposed in a neat and appropriated speech by the chairman, and heartily responded to.

CHEESE.—The stock of cheese among the Derbyshire farmers was never known so low as at this present time. The dairies are nearly empty, and the cause is attributed to the late unfavourable summer, which proved nearly fatal to the hay crop in that quarter, and the consequent bareness of the pastures. There will be no cheese scarcely fit for use until the next season, which will be about next September.

EARLY OAT SOWING.—On the 27th February, Mr. Hugh Spear, farmer in Fairlie wood, Largs, sowed a field of oats.—*Dumfries Times.*

There were exhibited on Norwich Hill, on Saturday se'night, by Mr. Crome, of Horsford, for sale, between ten and eleven score of superior fat sheep, grazed by Mr. William Ireland, farmer, of Cawston, and were allowed by competent judges to weigh rather more than six stone and a half each, the average weight of the whole lot.

Wm. Tamlyn, Esq., of Porlock, has in his possession a ewe, of the Exmoor breed, which is now 21 years old, and which has produced altogether the extraordinary number of 38 lambs.

Last week, a cow, the property of Mr. Watkeys, Tymawr, Llanwrn, calved three calves, which are all fine strong animals. The cow is nine years old, and has produced nine calves.

On Tuesday week last at the Wootton Bassett Market Mr. George Haggard of Swindon, pig-dealer, sold four sow pigs, whose litters amounted to 47 pigs.

Straw is both scarce and dear in the Potteries. A few days ago, a farmer sold a waggon load at 7l a ton, or upwards, which he replaced, being short of fodder, by purchasing hay at the rate of 6l 10s per ton.

FIRE HUNTING.—Fire hunting was unknown in this country until within some 50 or 60 years, when it was introduced by Mr. Burnie, who lived among the Choctaw Indians! In Virginia it was practised before this, but not with the same success. The facility with which Mr. Burnie killed deer at night infused into the superstitious Indians a belief that he was some superior personage, and that he effected it by means of physic, which is their *kalon*, and solves all their mysteries. He delighted for some time in practising upon the fears, and literally astonished the natives. However, it was revealed, and is now generally practised, though prohibited by law. To prepare for a fire hunt, it is necessary to get a common frying-pan, the handle of which is lashed to a board, three or four inches in width, and five or six feet long, which is placed on the shoulder, and the arm thrown over it, to keep it in a horizontal position. The handle being lengthened, throws the pan several feet behind the hunter, in which there is a light wood fire kindled, and he is then ready for a hunt. The light from the fire illuminates a circle, save where the shadow from the head falls, which, diverging as it goes off, is in size considerable. Within this shadow the huntsman sees and shoots his game, which manifests itself alone by its eyes, which are red and fiery, from the reflection of the light, and visible at some distance. The huntsman either walks or rides, shoots with the pan on his shoulder, and seeks the highland or swamp, or any place where he will probably meet with deer. To increase the shadow, or range of vision, it is only necessary to move the handle horizontally to the right or left, which causes the shadow, to sweep the segment of a circle, in any direction you please. The danger arising from this species of hunting is, that dogs, sheep, horses, and cows, are liable to be shot—their eyes presenting an appearance similar to that of the deer. The most experienced hunter may be deceived by the eyes of a dog or sheep. Horses and cows, from the fact that their eyes are further apart, may be distinguished, yet many of them have been sacrificed to a knowledge of this pursuit. There is something very striking in viewing a walking light, meandering through the woods, while shooting upwards it throws around a broad lurid glare, and lends to the woods, wherever a shadow falls, a gloom far greater than that of the night. The sight is calculated to have much effect upon a human being; and I cannot reconcile it to myself to see even a deer fall by a treacherous plan—treacherous it seems to me, for having lain concealed all day in swamps to avoid man—having rid themselves of dogs, perhaps by a long and weary chase, they move out under cover of night to pick their scanty subsistence, or to glean nutriment for their tender young. Little do they suppose, when all nature is wrapped in sleep, that there is an enemy in search of them, so captivating in appearance as to lull asleep all fear, all suspicion of injury. They feed—their beautiful leopard-like young sport in gambols near them—occasionally drawing the flowing teat; a flame-bean is seen approaching, shedding far and wide its broad lurid glare. This is the only object seen by them. As the hunter sweeps his circle, it flits about, reminding them only of a "marsh's meteor lamp," by the light of which so often they have cropped the tender herbage, while sporting o'er some grassy meadow. Nearer still it approaches—and they gaze with rapture at the beautiful sight; a redder light bursts forth, and the dread crack of a rifle rings through the forest. The mother falls, and lies weltering in her blood. Her tender infants lick from her wound the crimson fluid as it exudes. They look about, they see nothing to alarm them. Tears fill their eyes, which only make them a more prominent mark for the huntsman, and, chained to the spot by the magic effects of the light, they there remain, until they are offered up as a sacrifice to filial affection.—*Sketches of Colonel Crockett.*

REVIEW OF THE CORN TRADE

DURING THE MONTH OF MARCH.

The weather throughout the month has been cold, accompanied with drying winds from the East and North East, and in some localities the thermometer has been five degrees lower than during any other period of the winter. The cold low lands have been brought into good condition, and though the frost at night has partially impeded sowing, yet considerable progress has been made in bringing the eventful period of the season to a satisfactory conclusion. The young wheats in those counties, on which the metropolis is more dependent for supply, are assuming a healthy and vigorous appearance, and though backward, are tillering out and covering richly the land. Germination or vegetation have, however, lately made little progress, but neither plant nor blossom were sufficiently advanced to sustain any radical injury from the ungenial temperature. In Ireland considerable progress has been also made in field operations, and the markets consequently less plentifully supplied by the farmers, who are busily engaged in out-door labour; the same remarks are nearly applicable in this respect to Scotland as well as England. Fine wheats have supported fully the previous quotations; seed barley and oats obtaining higher rates, but secondary sorts have receded fully 1s to 2s per brl, and soft inferior parcels extremely difficult of disposal at even a greater reduction. Barley generally slow sale and secondary and inferior sorts extremely depressed in value. Oats have experienced a heavy trade, at a reduction of 6d to 1s per brl, all free on board sales with the sister kingdom having ceased, owing to the inferiority of the shipments, from the want of due attention to quality, condition, and preparation, as we have had occasion previously to notice. In Scotland, the markets, particularly within the range of those parts of the Highlands where the distress from failure in the crops is more severely felt, experiencing an active demand for seed oats, as well as oat and pea-meal, and from the people being habituated to these kinds of food, oatmeal is bearing a higher relative value than flour; so difficult is it to eradicate the force of habit, even though starvation is apparent; and it is to be feared that the propositions made to apply to government, to allow a portion of the foreign wheat now remaining in the bonded warehouses, to be released at the current market rates of 36s to 38s for red Baltic qualities and shipped free of duty to the points most available for the distressed Scottish population, would not be attended with the same beneficial results as if good mealing oats and peas were transported to

the scene of famine, and for which purpose some of the bonded oats and peas might be taken out of bond, as there are upwards of 59,000 qrs of the former, and 3,000 qrs of the latter, under lock; oats being held at from 13s to 18s, and peas at 23s to 27s.

The state of the money market has had a controlling influence on the grain and seed trade throughout the United Kingdom, and though during the middle of the month rather more facility was experienced in procuring discounts, yet towards the close the pressure for money was again severe, and which though relieved by the determination of the bank to grant an extension of accommodation to the larger houses connected with America, yet considerable difficulties appear to have arisen in making the necessary arrangement, owing to the extent, not only of the liabilities in amount, but the ramifications of the transactions, the bank directors on examining the intricacy and magnitude of the operation, learnt sufficient to convince them, that if they refused assistance, the derangement, or rather mercantile convulsion, which would have ensued, would have been in all probability unparalleled in the history of manufacturing industry, and it must be also borne in mind that the bank itself is in no very palmy condition to meet a general state of discredit, which must have inevitably ensued, with little more than four millions of specie in their coffers to stem the consequent paralyzation of trade.

No doubt the scarcity of money has prevented wheat from attaining a higher range of price than at present prevails, and which the state of the weather, previous to the setting in of the cold, would have contributed to promote, but all speculative spirit has been curbed, and the demand has been strictly confined to the local necessities, millers only purchasing to the extent of their immediate wants. The supplies into Mark Lane have been liberal for the season of the year, exceeding 30,000 qrs, and have proved fully adequate to the demand; the samples in their improved condition, exhibiting the good effects of an altered state of temperature and atmosphere. Fine samples have maintained the previous quotations, but inferior cold parcels have suffered a depreciation in value of 1s to 2s per qr as in quantity and have experienced a slow dragging trade.

The advices which have continued to arrive from the United States were sufficiently favourable to have induced holders of bonded wheat to have increased their shipments, but the difficulty of pro-

curing American vessels, or Danish, Austrian, or Prussian has materially checked the extent of business, though 8s to 8s 6d per qr would have been granted readily could freights have been obtained. The advances also which have taken place in our American colonies has attracted speculative attention, freights offering as low as 3s per qr, many of the timber vessels readily accepting such a freight in preference to returning in ballast and a few thousand qrs have been exported to Quebec and Montreal, and some parcels to St. John's, Halifax, Miramichi, &c. Few purchases have, however, been effected, the shipment being almost entirely on owners' account; and as some holders during the middle of the month showed more disposition to realize, a decline of 1s to 2s took place, at which prices continue dull and with a tendency on *bonâ fide* offers further to recede. Mecklenburg, Pomeranian, and Danzig wheats have sold at from 36s to 38s and 40s. Liberal advances have been offered by American houses to induce consignments, in instances 25s per qr on wheat, and 15s per qr on rye.

The flour trade in London has experienced no alteration in the currencies; best marks remaining nominally at 55s, but the bulk of the sales being made at from 50s to 53s per sack; dullness has, however, pervaded the trade, which is attributed to the country qualities, not in the best condition, pressing on the market; good marks have been selling at from 40s to 42s and 43s. Bonded flour has continued to meet sale at from 25s to 30s per brl for export principally to the West Indies.

The arrivals of barley have amounted to 34,500 qrs, besides nearly 10,000 qrs from abroad, part of which has paid the prevailing duties. The heavy character of the malt trade has continued to operate disadvantageously on the prices of barley, and the depression the article gradually sustained, having brought it nearly to a par with the decreased value of the manufactured article, good Chevalier parcels being obtainable at 34s to 35s, and Norfolk and Suffolk 32s, maltsters began to evince more inclination to take off the finer samples, and prices therefore towards the close of the month have remained firm, and fine Chevalier for seed, held at 1s to 2s more money. Distillers having been full of stock have refrained from coming to market and little demand existing for grinding sorts; the intermediate and inferior sorts have been very difficult of disposal, but are now being held rather firmer; a few small shipments have been made of bonded barley which is noted at from 18s to 20s.

Malt at the depreciated currencies has met rather more attention, and factors therefore have become firmer at the reduction.

The import of oats has been considerable, especially from England and Ireland, and large also from Scotland; in one week the united supplies having exceeded 47,000 qrs, and comprising during the month, 147,540 qrs, viz., 45,949 qrs English, 22,295 qrs Scotch, and 79,296 qrs Irish. The trade, which was previously ruling heavy, was rendered extremely dull, and prices receded on all descriptions, 2s to 3s per qr, and the stale, weathered, and foxy samples almost unsaleable at this reduction; the bulk of the Irish continuing to prove light and inferior, induced holders to submit to still lower rates, and Galways were offering at from 16s to 17s, which at length tempted speculators to come forward, and considerable sales were effected at these rates, which enabled holders to obtain for these sorts rather more money, say from 16s 6d to 18s; and the cold weather keeping up the ratio of consumption, dealers and consumers have taken off the better qualities at these

reduced rates, so that considerable progress has been made towards a clearance, and the trade has assumed again a more healthy appearance, prices being thought to have seen, for the present, their minimum range, as the shipping accounts from the leading Irish ports shew few cargoes destined for the time to our market. Bonded oats have been selling in retail for export, chiefly to the West Indies, feed qualities being noted at 13s to 14s, and brew at 16s to 18s.

Beans during the early part of the month, met a slow dull sale at declining prices, but the demand lately having rather exceeded the supply, quotations have rallied, being noted 1s higher.

Peas of all descriptions, especially blue, were at one time very difficult of disposal at low rates, but the prevalence of frost has caused an improved sale and the article generally has been sold on better terms.

The alteration in the duties consist of an advance on wheat of 2s per qr., the duty being now 30s 8d; on barley of 4s 6d, duty being 13s 10d; on oats of 1s 6d, duty being 12s 3d; on rye of 6s, duty being 14s 1d; on beans of 4s 6d, duty being 14s; and on Peas 4s 6d, duty being 15s 6d.

During the month of March the following quantities of Grain and Flour have arrived in the port of London:—

	Wheat. qrs.	Barley. qrs.	Malt. qrs.	Oats qrs.
English	30,486	34,502	45,431	45,949
Scotch.....	95	3,732	..	22,295
Irish .....	..	210	..	79,296
Total in Mar.	30,581	38,444	46,431	147,540
Total in Feb.	22,077	27,575	29,211	115,492
Total in Jan.	24,421	26,659	18,173	53,924
Foreign in Mar.	3,507	9,266	...	9,346
	Beans. qrs.	Peas. qrs.	Linseed. qrs.	Flour. sacks.
English.....	7,893	3,957	..	43,390
Scotch.....	..	2	..	12
Irish	6	..	..	67
Total in Mar.	7,899	3,959	...	43,369
Total in Feb.	6,989	4,863	...	35,150
Total in Jan.	6,611	5,339	..	30,790
Foreign in Mar.	218	5,046	8,210	brls. 8,154

The accounts received from New South Wales are dated the 22nd and from Van Diemen's Land the 23th October. It appears that the prospects of the forthcoming crops were most favourable, which in little more than two months from the date of the last advices, would be fit for the sickle, and with the comparatively immense importations already pressing on the market, not only from Great Britain, but from the East Indies, Cape of Good Hope, Singapore, &c., and advices of shipments still on their voyage, had forced the prices of wheat to recede much below its usual market value, having declined to 7s 6d, then rapidly to 5s, and at the departure of the last ship was quoted as low as 3s to 3s 6d per bushel. Mr. Barker, the extensive miller, at Sydney, had entered into a contract to supply 300 tons of fine flour at 8l 10s per ton, and in order to profit by the bargain, he must purchase the wheat at 2s 6d per bushel. Flour was noted at 8s 10d to 13s per 100lbs, as in quality. Some of the vessels with cargoes of wheat newly arrived were proceeding with the corn to the Mauritius, King George's Sound &c., owing to the depressed state of the market. In Van Diemen's Land

wheats were noted at 5s 6d, 5s 9d, to 6s per bushel, but the trade heavy, and oats worth more than 10 to 20 per cent. more than the best samples of the more staple commodity; wheat being also cheaper than barley. These accounts have created some degree of surprise in the London market; had however, the opinions we ventured to suggest at the time the shipments were being effected, been more attended to, less cause for astonishment and consternation would have been excited, and less loss sustained by shipments to so distant a part of the world, where the consumption is limited to a very contracted circle.

The latest accounts from Jamaica, dated the 28th January, reports the flour trade as dull, and bakers still evincing little disposition to purchase German samples; prices had receded, sales of limited quantities having been made at 50s 8d currency per barrel; a small parcel of superfine Quebec had brought 33s 4d, and some flour direct from Stettin 66s 4d; and Baltimore and Philadelphia 85s to 93s 4d per barrel. Little biscuit in hand; crackers were worth 60s, and pilot bread, 53s 4d. During the month of January the imports of flour had been 575 barrels less than last year.

In Canada the prices of wheat continued to advance, and the better qualities at Montreal were obtaining 9s 2d per minot for Lower Canada red, and in Upper Canada as high as 11s 2d per bushel, flour being firm at 60s for fine marks, and 65s per barrel for super. In Upper Canada the drain on the markets for the supply of the United States, had caused a serious advance in the value of grain, provisions, &c., and much distress is represented as likely to ensue, without some legislative restrictions on the transport of grain were enacted. We are, however, inclined to believe that the different statements are rather highly coloured, and though no doubt quotations are ruling high, yet the advanced rates obtained by the population, chiefly agriculturists, will equalize the burdens without having recourse to the objectionable system of fiscal regulations, interfering with the regular course of commercial transactions.

By letters from Halifax, we learn from the Governor's speech, that though the harvest had not been productive, yet no serious evils were expected to emanate from that circumstance; but the failure in the potatoe crop, had threatened the new settlers in Cape Breton with extreme distress, which had been partially relieved by assistance from Halifax, and if further means should be required, the Governor appealed to the charity and humanity of the inhabitants for contributions. Flour was in demand, but the prices are not stated.

It appears by late advices from Lisbon, that by the new tariff, the entry of all grain and flour is to be permitted after the 10th of April, on payment of duties regulated by the average prices of the Kingdom, on the same principle as our averages are now constituted.

In France, the weather is of the same character as that which we have been experiencing, and the cold drying winds had brought the land into a good condition to receive the summer corn; the sowing of which was rapidly proceeding, and as the wheat plant was backward, the weather was not considered by any means disadvantageous for the crop, which presented generally a satisfactory appearance. At Paris the dull accounts from the southern markets and absence of orders, had depressed the rates 50 cents to 1 franc per $1\frac{1}{2}$ hectolitre, which the farmers were most unwilling to submit to. At Marseille and Mediterranean ports, notwithstanding the cold weather which prevailed throughout Catalonia, yet the

markets were dull, and prices almost nominal. At Toulouse on the 11th inst. snow had fallen, and the navigation of the canal partially impeded. At Bordeaux the continued supplies and momentary cessation of demand had rendered the trade quite stagnant for the home consumption at a decline of 1 franc per hectolitre on Normandy wheats, the general quotations being nominal at 46s 6d to 52s per qr. Exports however of flour continued to be made to Bilbao and St. Sebastian, and it was stated that 20 vessels had been already chartered to these ports. The epidemic, la grippe, was assigned as a partial cause for the extra dullness of the market.

At St. Petersburg, the grain trade remained dull, but the prices in the interior were supported, and the market scantily supplied. Linseed of the best quality might be bought at 36s 10d per qr.; and 15ro per tschwert advanced. At Riga the grain trade was in a languid state;—Courish wheat nominally at 31s 2d to 32s 8d; oats, 11s 2d to 11s 10d; crushing linseed on delivery, 38s 1d, all cash advanced and with only ten per cent. 40s; Rye, 17s 8d. At Konigsberg, the wheat trade remained firm, and speculative feeling alive; the prevailing opinion at that market being, that shipments to America are safe until May, as the prices of wheat in the United States are not likely to recede below 2 dollars, and Rye 1 dollar 50 cents per bushel, until the month of July, when the new growth will be coming to hand. New rye remained at 17s to 18s, and old 20s to 21s per quarter. At Danzig, the re-appearance of frost had checked all the progress of business; high mixed wheat remained at 36s to 38s, and mixed 33s to 35s, and for delivery in May, free on board, good high mixed wheat had been sold at 34s. Vessels however destined for America, were in the meantime being loaded overland, in order to be despatched with the least possible delay. Several saes of rye had been effected in loco at 18s, and for April delivery at 17s 4d. At Stettin, rye was experiencing a demand for shipment to America, but in wheat little was transpiring, prices remaining unaltered. At Rostock, the demand for shipment to America having continued brisk, holders of wheat and rye had been enabled to realize an advance on each article, the former having been sold at 33s to 33s 6d for new quality of 62 lbs; and 34s to 35s old. Rye was fully 1s to 2s dearer, being noted at 23s to 24s 9d, and captains were demanding 14s per qr freight to the United States, with few vessels remaining suitable for the voyage.

At Hamburg the receipts of wheat from the upper districts of the Elbe had continued large, and, during the three weeks preceding the 21st of March, the arrivals had amounted to nearly 46,000 qrs, and 18,000 of rye; and as the demand was confined to the local necessities of the millers and bakers, wheat had receded 3s 6d to 4s, and Rye 6s to 7s. Fine old red upland Wheat being noted at 36s to 36s 6d, weighing 62 to 63lbs, ditto 61 to 62lbs, 35s to 35s 6d, new, 32s to 33s 6d; fine new rye, 20s 6d to 21s; good Bohemian barley, 17s 6d to 18s, ditto, Saale, 17s to 18s; upland tares selling as low as 16s 6d to 17s per qr; Holstein Rapeseed, 23l 10s per last. Freight to London 2s per qr and 10 per cent., to the United States, 26 dollars per last and 15 per cent.

At Rotterdam the inquiry was continued for wheat and rye to ship to America; fine Rhine wheat of 62 to 63 lbs had obtained 34s to 35s, and fine heavy rye 23s 6d to 24s; but the arrivals from the Rhine and other quarters being considerable, lower offers would have been accepted. A public sale of 1,200 lasts of wheat was announced at Amsterdam on the 31st inst, which tended also to de-

press the currencies, though it was expected good rates would be realised, as it seemed a prevailing opinion that the stocks of grain in Europe were very much reduced, and that the consumption principally depended on the last crops; which, with not very favourable reports of the young plant, had excited rather a speculative feeling in favour of the article.

The advices from New York state, that Western Canal flour remained dull at 11 dollars 87½ cents to 12 dollars per barrel. The accounts adduced of the probable amount of the supplies differ in their tenor, but we cannot help suggesting the precaution against placing too implicit confidence in statements coinciding with the pre-conceived opinions of sanguine speculators. It appears from Cincinnati that large supplies are on the Ohio waiting open weather, and the prices of wheat and flour at that market receding, in addition to which it is to be recollected that extensive shipments are preparing at all the leading markets of the Baltic to the different ports in the United States, besides shipments from the Elbe, Weser, Holland, Belgium, Mediterranean, and Black Sea. Rye was selling at 1 dollar 37½ to 50 cents. per bushel; cloverseed firm, at 12 to 12½ cents. per lb. Wheat dull, at 2 dols 8 to 15 cents per bushel.

At Baltimore foreign wheat had obtained rather more money, fine white having realised 2 dollars 28 cents, and red German firm at 2 dollars 25 cents per bushel. Flour, however, was heavy, at 10 dollars 37½ to 75 cents per barrel.

At New Orleans flour remained at 10 dollars 50 cents to 11 dollars, with a demand limited to home consumption, and high prices were expected until the navigation of the rivers was free from ice.

From Philadelphia some statements have been put forth respecting the production and consumption of grain in the United States, and which, though interesting at this period, are devoid of much practical utility, no deductions being made in reference to the main question, whether America will require all the European shipments of grain now making, or about to be made, to meet the actual consumption until the new crops are available. The prevailing opinion is represented to be, that the advanced prices of flour do not entirely emanate from the deficiency in the crops, but in combination with the immense consumption of grain in the distilleries.

The annual average production throughout the States is estimated at 10,000,000 quarters of wheat, 13,750,000 of Indian corn, 7,500,000 of rye, 6,250,000 of oats, and 625,000 of Barley. About half of the Indian corn, the greatest proportion of the wheat, and half to three-fourths of the rye, are used for bread and biscuits; the remainder of the rye and most of that of the Indian corn, is distilled, and the barley is principally employed in the breweries, the oats, with the residue of the Indian corn, being taken for feeding horses and fattening pigs. The deficiency of the three leading articles of wheat, rye, and Indian corn, is estimated at one-third, or about 10,000,000 quarters, leaving from 20,000,000 to 21,000,000 qrs. to meet the consumption for flour and distilleries. The population of the United States is calculated at 14,000,000, and taking the average annual consumption of each individual at a sack of flour per head, as in England, 8,750,000 qrs. of corn would be required to feed them. Assuming these data to be correct, and which we have endeavoured to simplify, the original being very confused, and wanting exemplification, the produce, it would appear, of the past season, is more than sufficient to supply the nation with bread, if the whole could be distributed through the country in equal portions, according to the wants of each state, and the failure

would consequently occasion no suffering; this, however, is intimated as impracticable besides that large quantities will be still used by the distillers, and from 500,000 to 600,000 quarters required for export, to fulfil the contracts for the delivery of flour in the West Indies and South American markets, which amount, however, it is estimated, the foreign imports may cover.

CURRENCY PER IMPERIAL MEASURE.

	BRITISH.		MARCH 1.		APRIL 1.	
	s.	s.	s.	s.	s.	s.
Wheat, red, Essex, Kent, Suffolk.....	50	62	50	62	50	62
White.....	52	64	52	64	52	64
Norfolk, Lincolnshire and Yorkshire....	40	56	40	56	40	56
White, do. do.....	46	60	46	60	46	60
West Country Red.....	—	—	—	—	—	—
White, ditto.....	—	—	—	—	—	—
Northumberland and Berwickshire Red.....	—	—	—	—	—	—
White, ditto.....	—	—	—	—	—	—
Irish Red.....	48	50	48	50	48	50
Ditto White.....	50	52	50	52	50	52
Barley, Mating, new.....	35	38	32	35	32	35
Chevalier, new.....	37	40	34	38	34	38
Distilling.....	31	34	31	34	31	34
Grinding.....	26	28	24	28	24	28
Irish.....	24	30	24	28	24	28
Malt, Brown.....	47	52	46	50	46	50
Ditto, Chevalier.....	61	62	58	60	58	60
Ditto, Norfolk and Suffolk Pale.....	54	60	54	58	54	58
Ditto Ware.....	59	61	57	59	57	59
Peas, Hog and Grey.....	34	36	31	34	31	34
Maple.....	36	36	32	35	32	35
White Boilers.....	38	41	36	38	36	38
Beans, small.....	38	42	34	42	34	42
Narrow.....	36	40	36	40	36	40
Ticks.....	34	38	34	38	34	38
Mazagan.....	34	38	34	38	34	38
Oats, ENGLISH feed.....	23	27	22	26	22	26
Short small.....	26	30	24	28	24	28
Poland.....	27	30	25	28	25	28
Scotch, Common.....	23	28	22	27	22	27
Berwick, &c.....	25	30	24	29	24	29
Potatoe, &c.....	26	30	25	30	25	30
Irish, Feed.....	12s 6d	23s 0d	13s 0d	21s 0d	13s 0d	21s 0d
Ditto Potatoe.....	20s 0d	28s 0d	20s 0d	26s 0d	20s 0d	26s 0d
Ditto Black.....	17s 0d	24s 0d	16s 0d	23s 0d	16s 0d	23s 0d

PRICES OF FLOUR,

	Per Sack of 280 lbs.		MARCH 1.		APRIL 1.	
	s.	s.	s.	s.	s.	s.
Town-made.....	48	55	50	55	50	55
Norfolk, Suffolk, Kent, and Essex.....	43	44	43	44	43	44
Sussex and Hampshire.....	42	43	42	43	42	43
Superfine.....	44	—	44	—	44	—
Lincolnshire, Yorkshire, and Stockton.....	41	43	41	43	41	43
Northumberland, Berwick, and Scotch.....	42	43	42	43	42	43
Irish.....	42	45	42	45	42	45
Extra.....	47	—	47	—	47	—

IMPERIAL AVERAGES.

	Wheat.	Barley	Oats	Rye	Beans	Peas.
Work ending 10th Feb.	56 5	34 2	23 10 38	9 39 4	37 9	
17th "	56 2	33 7	25 3 40	9 37 11	37 7	
24th "	55 9	32 10	25 3 36	9 37 7	37 8	
3rd March 10th "	55 11	32 5	23 4 35	8 38	36 6	
17th "	56 9	31 7	22 8 36	10 36	35 8	
Aggregate Average of the six weeks which regulates the duty.....	56 3	32 10	23 3 37	3 37 10	36 10	
Duties payable in London till Wednesday next inclusive, and at the Outports till the arrival of the Mail of that day from London.....	20 8	13 10	12 3 14	0 14 0	15 6	
Do. on grain from British possessions out of Europe.....	5 0	2 6	2 0 3	0 3 0	3 0	
Foreign Flour, 18s 5d per 196lb. British Possessions do., 3s per 196 lbs.						

STOCK OF GRAIN, FLOUR AND CLOVER-SEED IN BOND IN THE PORT OF LONDON ON THE 5TH MARCH.

Wheat.	Barley.	Oats.	Beans.	Peas.	Flour.	Cloversd.
qrs.	qrs.	qrs.	qrs.	qrs.	cwts.	cwts.
233,363	2,247	59,267	925	3,371	21,881	43,051
		Rye,—	qrs			

PRICES OF SEEDS.

MARCH 27.

The arrivals of foreign Cloverseed have been on a more moderate scale the past week, consisting of 222 bags from Rotterdam, 187 bales from Harlingen, 48 bags from Antwerp, 22 casks and 74 bags from Altona, and 124 casks and 528 bags from Hamburg. The consumptive demand since this day week has been languid, owing to the frosty weather checking sowing; and as some foreign parcels have been pressing on the market, a reduction of 2s per cwt has been submitted to. The limited quantity, however, of English prevents any depreciation in the value of the finer qualities. A few parcels of foreign white seed having been received and holders have given way in their demands, the article being noted 2s per cwt lower. Trefoil dull, but unaltered in value. Linseed continues dull at declining prices, distrust being felt as to the correctness of the advices, from the East Indies, intimating a deficiency of two-thirds of the produce. Rapeseed dull, and prices barely maintained. Caraway steady. In Coriander no variation. New Canary seed was dull, at lower prices, samples being noted at 32s to 38s, and old 40s. Tares in good supply, but very heavy sale at 4s 6d to 5s. The cold weather causes Linseed Cake to meet enquiry, and prices steady. In Rapecake little doing. The supplies from abroad have amounted to 71 tons of Linseed-cake from Bremen; 84 do., from Christiania; 33,640 do. from Leer; and 60 tons of Rapecake from Kohlbrandt.

ENGLISH SEED.

CLOVER, per cwt. new red, 40s to 80s., prime old 100s to 108s	
white 50s to 54s, extra	70s to 76s
RAPESEED, per last,	30l to 32l
CANARY, do.	32s to 40s
TURNIP SEED, new Swedes, 10s to 11s—other	
qualities	14s to 20s
MUSTARD SEED, per bushel, white	8s 6d to 10s
Do. Brown	10s 6d to 13s
TREFOIL, per cwt	15s to 20s
CORIANDER, do. old, 11s to 14s, new, 10s to 13s	
CARAWAY	48s to 52s
TARES, per bush., Spring new	5s to 5s 6d
LINSEED CAKES, per 1000, 13l.; Rape, per ton. 5l to 5l 5s	

FOREIGN SEED.

CLOVER, red, per cwt, French	60s to 74s
Dutch and Brabant, red	60s to 74s
Do. white, 50s to 55s; extra, 65s to 70s	
American	60s to 76s
German, Silesian, } red. 51s, 65s, 75s	
and Bohemian. } white. 40s to 72s	
CARAWAY, per cwt	42s to 46s
HEMP, per qr. small, 38s to 43;	large. 42s to 46s
RAPESEED, per last,	26l to 29l
LINSEED, per qr. Crushing, 40s to 52s; English. 54s to 56s	
TARES, per qr. old, — to —s;	new. 42s to 44s
LINSEED CAKES, per ton, 8l.; French and extra. 8l 10s	
RAPE CAKES	1l to 5l

DUTIES.—Hemp, 1s per qr; Linseed and Rapo, 1s per qr; Tares, 10s per qr; Mustard, 8s per bushel; Clover, 20s per cwt; Caraway, 30s; Coriander, 15s; Trefoil, 20s; Oil Cakes, 3s 4d per ton.

HOP INTELLIGENCE.

MARCH 27.

PRESENT PRICES.

	£	s.	£	s.	£	s.
East Kent, Pockets, fine.. ..	4	10	5	5	fine	7
Bags do.	4	4	4	15		5
Mid Kent Pockets do.	4	2	4	15		6
Bags	3	10	4	10		5
Weald of Kent Pockets.	3	10	4	10		5
Sussex, Pockets.	3	10	4	4		4
Yealings	2	10	3	3		4
Old olds	1	1	1	10		2

POTATOE MARKET.

SOUTHWARK—WATERSIDE, March 27.—The supplies of Potatoes have been moderate, comprising 300 tons of Yorkshire reids, 100 ditto kidney; 300 ditto Wisbeach; 110 ditto Suffolk whites; 120 ditto Kent kidneys, and 300 ditto whites; 100 ditto from Scotland; none from Devon, and only 61 tons from Guernsey; but, as the wind has now become more favourable, arrivals may be expected from Devon and the Channel Islands. Though the weather has been conducive to the consumption, yet the high prices still required have partially checked the demand, and the trade, both to-day and throughout the week, has ruled heavy; the only reduction, however, being 5s in Scotch qualities. As the continuance of frost is retarding materially vegetation, salesmen are anticipating for the present being enabled to maintain the existing currencies; but should any sudden and material change take place in the temperature, no doubt they must then submit to a reduction.

Per ton or 40 bushels.

Yorkshire reids. 90s to 110s	Lynn Kidneys	85s	90s
Do. Kidneys	—s	100s	Suffolk Whites. 80s
Scotch reids. 55s	90s	Kent Kidneys	95s
Devonshire reids	—s	100s	Do. whites
Do. Kidneys	—s	100s	Jersey & Guern. blue. 95s
Wisbeach	80s	85s	Do. whites
Chats	40s	55s	85s

BOROUGH AND SPITALFIELDS MARKETS.

WARE.	Per Ton.	MIDLINGS.	Per Ton.
£ s.	£ s.	£ s.	£ s.
Scotch reids.	5 0 to 5 10	Scotch Reds	4 15 to 5 0
Marsh Champ.	4 5 4 15	Marsh Champ.	3 15 4 5
Common reids.	4 5 5 0	Common reids	3 15 4 5
London whites	3 10 4 5	London whites	3 5 3 15
Shaws	3 5 4 0	Skaws.	2 15 3 5
York kidneys.	4 15 5 5	York kidneys.	4 10 4 10

WOOL MARKETS.

BRITISH.

MARCH 27.

During the past week there has been rather more business doing in British Wools. Confidence, which was, during the late pressure for money much shaken, is, at length, restored, and higher prices are confidently anticipated, though, at present, we can quote no enhancement on last week's currencies.

	Per lb.	MARCH 1.		APRIL 1.	
		s. d.	s. d.	s. d.	s. d.
Down Tees.	1	8 to 1 8½	1	7½ to 1 8½	
Half-bred do.	1	8½ to 1 9½	1	8 to 1 9½	
Ewes and Wethers	1	5 to 5½	1	5 to 5½	
Leicester Hogs	1	5 to 6	1	4½ to 6	
Do. Wethers	1	2 to 3	1	2 to 3	
Blanket Wool	0	8 to 1 2	0	8 to 1 2	
Flannel	1	2 to 7	1	1 to 7	
Skin Combing	1	2 to 4	1	2 to 4	

EXETER.—With respect to this market we regret to say that we have not a single cheering circumstance to record. It is not merely dull, we might almost call it stagnant, and further and almost general decline in price has taken place. We have accordingly to quote, yolk wool at 11d; washed wool, 14d; and Dorset horn, 15d per lb. In sorts, Kent head, is 11d; and red, green, and pinions, down to 1s. Fell combing, is 14d; fine head, 14d to 14½d; Cornish stripe, 15½d; North Devon stripe, 16d; tops, (river washed), 19½d; ditto, (soap washed), 20d per lb.

LIVERPOOL.

WEEK ENDING MARCH 27.

ENGLISH AND IRISH WOOLS, the business in which during the present dull week has been too trifling to require notice, have not been able to sustain former prices, and the annexed quotations are therefore reduced. The import of Irish during the week has been limited to 95 bags.

Current prices per lb.—Down ewes and wethers, 17d to 18d; down tegs, 19d to 20d; combing fleece, 18d to 19d; combing skin, 16d to 18d; super skin, 16d to 18d; head skin, 15d to 16d.

Current prices per lb.—Irish fleece, mixed lots, 17½d to 18½d; Irish wethers, 17d to 18d; Irish hogs, 18d to 19d; Irish combing skin, 14d to 15d; Irish short skin, 12d to 15d. Imports this week, 95 bags; previously this year, 722 bags.

SCOTCH WOOLS.—The business this week has been very unimportant. A few small parcels of laid Highland, and a small lot of Cheviot is all we have heard of. The pressure of the times is now beginning to be seriously felt in the manufacturing districts. Stocks of yarns and goods are accumulating in makers' hands, and as a necessary consequence, the demand for the raw material is much diminished.

	per stone of 24 lbs.	
Laid Highland Wool, from 13s 0d to 13s 6d		
White do.	15s 0d	16s 0d
Laid Crossed do.	15s 0d	16s 0d
Washed do.	16s 0d	17s 0d
Laid Cheviot, do.	18s 0d	20s 0d
Washed do.	24s 0d	26s 0d
White do.	32s 0d	34s 0d
Import for the week	479	bags.
Previously this year	1821	do.

FOREIGN WOOLS.—The transactions in foreign wool in the latter part of last and the commencement of the present week, have been principally confined to the descriptions which were withdrawn at the late public sale here, a considerable portion of which have been disposed of on terms, generally speaking, much in favour of the buyer. The amount of importation is confined to 143 bags.

Current prices per lb.—Russian wool, 8d to 9d; Odessa, fine, 1s 9d to 3s 6d; Buenos Ayres, 4d to 5d; Mogadore and Barbary, 4d to 6d; washed Peruvian, 12d to 14d; unwashed ditto, 9d to 10d; Portugal R., 1s 4d to 1s 6d; ditto, low marks, 11½d to 1s 1½d; German fleeces, 2s to 2s 3d; ditto assorted, 2s 3d to 2s 6d; ditto lambs, 2s 3d to 3s 3d; Spanish R., 2s 3d to 2s 6d; ditto F S, 2s to 2s 2d; New South Wales, 1s 9d to 2s 6d. Imports this week, 143 bags; previously this year, 6,044 bags.

SCOTCH.

	Per Stone of 24 lbs.		MARCH 1.		APRIL 1.	
	s.	d.	s.	d.	s.	d.
Laid Highland Wool, from 12 6 to 13 0	12	6	13	0	13	0
White Do. Do.....	15	0	16	0	15	0
Laid Crossed Do.....	15	0	16	0	15	0
Washed Do. Do.....	16	0	17	0	16	0
Laid Cheviots.....	18	0	20	0	18	0
Washed Do.....	26	0	28	0	24	0
White Do.....	32	0	36	0	32	0

FOREIGN.

MARCH 27.

We have received from Germany since our last report, 350 bales of wool; from Turkey 330 do.; and from Holland, 150 do. Last Thursday's sales were well attended by buyers, and the whole of the wool disposed of, at the following rates:—German, from 2s 2d to 2s 4½d; and Cape of Good Hope, 1s 6d to 1s 10½d per lb. Though there has been rather more business transacted, by private contract, we cannot alter our former currency.

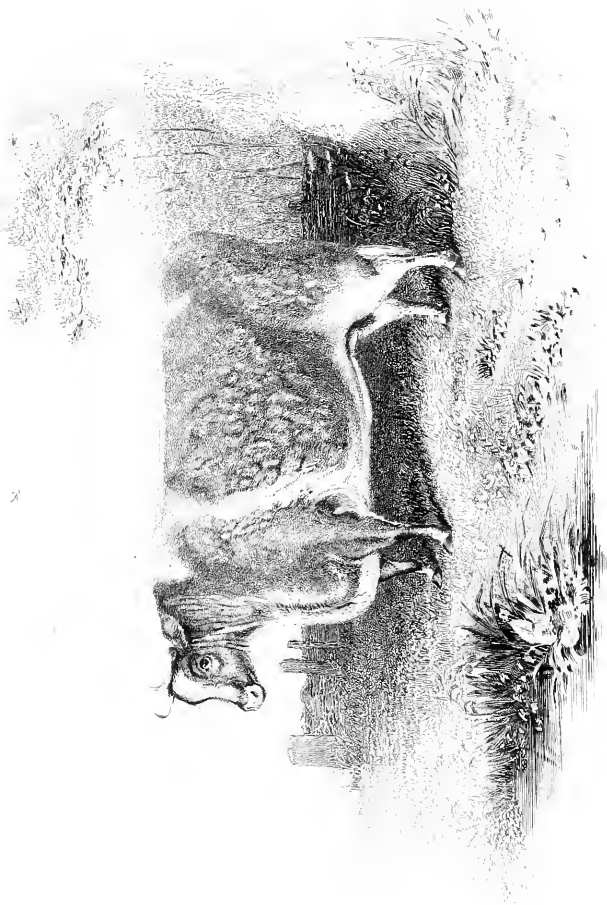
Electoral Saxony wool, from 4s 4d to 5s 4d; first Austrian, Bohemian, and other German wools, 2s 8d to 4s; second do., 2s to 2s 6d; inferior do. in locks and pieces, 1s 6d to 2s; do. lamb's do., 2s 4d to 3s; Hungarian sheep's do., 2s to 2s 6d; Leonesa sheep's do., 2s 6d to 3s 2d; Segovia do., 2s 2d to 3s; Caeres do., 2s 6d to 3s; Spanish lamb's wool, 1s 6d to 2s 6d; German and Spanish cross do., 2s 2d to 3s 4d; Portugal sheep's do., 0s 0d to 0s 0d; do. lamb's do., 2s to 2s 6d; Australian, fine crossed do., 2s 4d to 3s 6d; do. native sheep's do., 1s 6d to 2s 6d; Van Diemen's Land native sheep's do., 1s 6d to 2s 6d; Cape of Good Hope do. 1s 6d to 3s per lb.

Official account of Sheep's Wool entered at London, Bristol, and Hull, for Home Consumption.

	Duty paid.	
	In 1837 to last week.	Same time last year.
Spanish	495,885	534,885
Bristol	—	5,826
Australian	23,961	284,227
Other sorts	3,260,380	4,082,434
Hull	1,209,686	2,830,052
	<u>4,989,912</u>	<u>7,737,394</u>

BONES.

Since our last there have passed the SOUND or ELSINORE, the GREAT BELT, and the HOLSTEIN CANAL, ships loaded with Bones, bound for England, 1; with patent mist for England, 1.



A D U B E L A M O X.

property of Wm. Lord, Esq., of Threshorpe, Lincolnshire. Exhibited at the Agricultural Show, 1851.

THE FARMER'S MAGAZINE.

MAY, 1837.

No. 5.]

[VOL. VI.

THE PLATE.

The animal which forms the subject of the Plate, is a five years and five months old Durham Ox, bred and fed by William Loft, Esq., of Trusthorpe, Lincolnshire. It was exhibited at the last Smithfield show, and obtained a premium of twenty sovereigns, as the best ox in class 2, for "oxen or steers of any breed under six years old, weight 90 stone and upwards, that shall not have had cake, corn, meal, &c., previous to the 1st of August, 1836." A silver medal was also awarded to Mr. Loft, as the breeder of this animal. This ox was got by Mina, dam by Mr. Ostler's Comus. Mina was bred by Mr. W. Harrison, of Holderness, and was got by Snowball, his dam by a son of Patriot, which was sold for 500 guineas. Snowball was by North Star, her dam by Favorite, both bred by Mr. Colling. This ox, when slaughtered, weighed 232 stone, and produced 23 stone of rough fat.

POINTS IN CHEMISTRY APPLIED TO AGRICULTURE.—SOILS.

Plants are mainly indebted for support to the decomposed remains of things at one time possessed of life, and with which the surface of the earth is found to be impregnated. The decay of vegetables and animals is thus contrived to minister to the sustenance of organization. Life is produced by dissolution. By one of the most beautiful, yet simple, of processes, the adult plant calls the germ into existence, and afterwards furnishes the supplies which are to bring it to maturity. Nothing is wasted—nothing is misapplied. The produce of one year goes to form the harvest of the next. The herb returns to the dust from which it was derived, only to rise in renewed beauty when the appointed season shall call it from its tomb. Hence the words of Pope—

"See dying vegetables life sustain,
See life dissolving vegetate again."

"Ever changeful, ever new," the plant is always in perfection. So soon as it has attained the limit assigned to it by nature, it ceases to cumber a soil that it can no longer adorn. It then becomes subject to the laws of chemistry; its elements separate and slowly form the combinations already mentioned, which, in no long time, become constituents of succeeding crops.

"—— All, to re-flourish, fades:
As in a wheel, all sinks, to re-ascend."

The value of a soil for the purposes of agriculture, may be judged of in one of three ways—by the

quantity and quality of the crop which it affords on being subjected for a series of years to cultivation; by the nature of the herbage, which is spontaneously yielded by the ground; or by the quantity of requisites for the support of vegetation, which it may be found, on chemical analysis, to afford. With the first method we have, for obvious reasons, nothing to do in an article like the present. The second is apparently a mode devoid of difficulty, and easily had recourse to on all occasions; and, as the question as to the extent of its utility is interesting, from the attention that has of late been turned to it, we shall, for the moment, confine ourselves to an examination of its excellencies and defects. Though it is a test that has been resorted to by agriculturists from the earliest ages, little of any consequence was known by the ancient tillers of the ground, regarding the connection between the prevailing material of a soil and its spontaneous produce, further than that, in the words of Virgil,—

"All grounds not all things bear;—"

and their observations were limited to the almost regular occurrence of plants of a larger growth, such as the alder, the ash, the myrtle, and the vine, on soils of particular texture and composition.

Of late years, considerable attention has been drawn to the subject in this country, owing to the premiums offered by the Highland Society for communications on the nature of soils, as indicated by plants; and, as was expected, much interesting information has been obtained. Several of these essays have been published by the Society. All are good, and form the vehicles of something valuable; but two are, in particular, worthy of consideration, as

containing the result of much patient observations, and being tolerably free from defects, in the grouping and arrangement of the materials. The authors of these articles, are—Mr. Macgillivray, conservator in the Museum of the Royal College of Surgeons, in Edinburgh, and Mr. Archibald Gorrie, Annat Garden, Perthshire, both gentlemen admirably qualified, by the nature of their pursuits, to furnish remarks of no mean value to botanical science; while the former, from his extensive excursions in the Northern Counties, and in the Western Islands, is enabled to improve our ideas on the subject, by references to the soils of particular localities.

Soils, in general, only give rise to plants, for the rearing of which they appear, owing to the possession of some ingredient, to be peculiarly adapted. The well-known fact, as to the ashes of burnt fir trees affording a congenial soil to the seeds of the wild rasp, and being usually covered by such bushes, may be taken as a familiar illustration. Not only is the nature of the plant occasionally determined by the composition of the soil, or, in other words, not only are individual soils restricted, owing to some peculiarity in their construction, to the growth of a limited number of genera, but the *parts* of the plant are also liable, from similar causes, to considerable variety. When tulips, for example, are planted in too rich a soil, the colours spread; or if they have steadily remained of one colour in some particular soil, they will, on being removed to another, break into a variety of colours. A blue tinge may be given to the petals of hydrangeas, by placing them in the red earth which borders on chalybeate springs, and which for that reason is well impregnated with iron. The blossom of a common primrose, whose root has been taken up and planted in another soil, loses its yellow hue, and becomes of a pale-brown or chocolate colour.

Many plants delight only in soils of a peculiar nature, luxuriating so long as they are adherent to ground of a particular constitution, but rapidly losing in vigour and appearance when deprived, by any means, of the food to which they appear to be naturally adapted. "The Scotch fir, *Pinus sylvestris*, thrives well, but does not grow fast on the soil over the sandstone. Its wood, however, is tough, and very durable. But when this same tree is planted on the greywacke, though it grows more rapidly, and arrives sooner at maturity, yet, being softer, and fuller of white wood than that grown upon the sandstone, the builder, to his cost, finds that it is soon attacked by the worm, and decays. The reverse of this happens with the larch, *Pinus larix*, when growing on the greywacke. Its wood is sound and good, and, when cut down, is at heart quite perfect. But on the sandstone and gravels of this basin (Closeburn), it seems to be at maturity at an earlier age than that growing on the greywacke, and in many instances, when cut down on the soils, the larch presents a tubed decayed heart."* Plants, however, are seldom in error as to the choice of a locality, for the simple reason, that the soil, which will not yield to them the nutriment they require, either allows the sprout to perish before it meets the light, or, at best, affords so grudgingly the elements of life, that the sickly vegetable is fain to bow before the sun and wind, which, in more favourable circumstances, would have served to ripen and rock it to maturity. When trees are planted by man, they are, in numberless instances, placed in soils and situations which, if not inimical to the continuance of their lives, are at least adverse to their attaining health and com-

mon-place proportions. Man is in this way perpetually at war with physical circumstances, which a closer inspection of natural phenomena would show him that it is almost impossible to overcome. Doubtless he may, in many cases, undesignedly contend with powers whose workings cannot be opposed, because they are beyond the ken of his knowledge and experience, and his strivings may even be attended, in spite of such untoward operations, with a fair run of success; but surely that is not to justify him in proceeding contrary to what is dictated by the more or less perfect adaptation exhibited in the conjunction of every stone and bush, and in neglecting to profit, as he would do, by making his designs the counterpart of those upheld to him by nature. We constantly see trees occupying ground, the features of which tell us at once that there they are completely out of place, and that human interference must have been at work to entice them so far from their usual habit and locality. Pines are indigenous to sandy regions, and only come to their native wire-drawn scragginess in the vicinity of sandstone; the oak, the elm, and the ash, delight in rich thick loams, and only acquire perfection when spreading their ample and stalwart arms over a deep and fertile mould; the pensile willow is redolent of health and beauty, only when reclining over the margin of the stream; and the birch and alder are indifferent, indeed, unless in connection with the bleak moist sides of the northern mountains, to which we might almost say they love to cling; yet we hourly find that their peculiarities, in the choice of soil and situation, are set at nought, and this even in places where their planter has had every facility for placing them in their respective and appropriate abodes. When the dispersion of seeds is left to fortuitous interference, to be transported through the medium of air, of water, or of animals, how seldom have we cause to fault the bed which they discover (if we may so speak) for themselves? Rarely do we light upon a shrub or tree, sprung from a soil unsuited by temperature or composition to bring it to perfection. This may, however, be accounted for by the fact, that the greater number of plants attach themselves indiscriminately to any of a wide range of soils, and thrive upon them with the same accommodating facility; but there are, on the other hand, several plants restrained by some unknown peculiarity to certain limits, beyond which ordinary causes fail to carry them. For example, to quote from the author to whom I am already indebted for an illustration—"The larch grows naturally only on the primitive mountains, as the granite, gneiss, and the like rocks of that class, of the Alps in Switzerland. And it is most curious to observe, that, on the whole range of the Jura mountains, separating that country from France, and, being a limestone formation, rising to an elevation of several thousand feet, *not a single self-sown larch can be discovered*. Advancing, however, from this range into Switzerland, it may be observed, that in those places, as at Chamounie, Mount Cenis, the Simplon, and the lofty Alps, which partly enclose the beautiful lake of Thun, in the Canton of Berne, where the primitive formation, consisting of granite, gneiss, mica-slate, and similar rocks, abounds, the larch is indigenous, growing luxuriantly, and attaining to a great size."

Clay, sand, gravel, and peat, combined in various proportions, form a base or soil, in the interstices of which materials capable of affording nourishment to plants are rendered fit to be turned to account in their economy. Plants, as well as animals, require for their support a due supply of the elements of which they are composed, and these they obtain

* J. S. Monteath, Esq, in Edin. Phil. Journal, No. 9.

from amongst the earthy particles in which their fibres are imbedded. The soil, in fact, is to a plant what the stomach and intestines are to animals. It is the laboratory in which a variety of substances are so altered and prepared by mechanical and chemical agency, as to be capable of entering into the composition of vegetables, and conducing to their growth. All organized bodies are resolved after death by the chemical process termed putrefaction, into a number of simpler forms, six of which—water, nitrogen, carbonic acid, humic acid, lime, and potass—are essentially necessary for the constitution of plants, and are, therefore, to be found in greater or less abundance in every soil which is capable of supporting them. The first three substances are imbibed by plants from the surrounding atmosphere, besides being furnished by the soil; but the quantity so absorbed by the leaves is trifling when compared with that which is continually assimilated by the roots. Humic acid, on the other hand, is peculiar to vegetable and animal matters, and is indispensable to soils, for apart from its properties as a nutriment for plants, it is invaluable as being the solvent which enables lime and potass to enter into their composition. Though the agricultural chemistry of these bodies is, to a certain extent, a dull and stale subject, it is necessary that it should be pretty well understood, in order to facilitate the explanation and comprehension of other departments, and therefore our time will not be badly spent in taking a short survey of the points most worthy of attention.

The moisture of soils is derived from several sources: it may be formed by the decomposition of organized substances, into an explanation of which process, however, we need not enter; or it may be conveyed to the surface of the earth, either by deposition from the air, as in the case of fogs, dews, and showers, or by filtration through lower strata, as is usual in springs. In whatever way it originates, it serves the important end of holding in solution the other requisites for vegetation: without it, in fact, the other ingredients of soils could not be available. It is not only an indispensable constituent of a soil, but also a principal component of every plant,—23 out of every 25 tons of globe turnips, for example, being calculated to consist entirely of water. The experiments of Du Hamel and Bonnet, who reared plants on moss and sponges moistened with water only, led to the conclusion, that simple water is all that is necessary for their growth; but in these investigations they forgot that the materials of which they had constructed their mimic soil, contained many things which would, unknown to them, be taken up by the fluid, and carried to the plant. A salad can certainly be grown and brought to tolerable perfection in a wetted blanket, and bulbous roots will sprout, and even flower, when aided only by a supply of water; but growth proceeds just so long as the nutritive matter which is contained in every seed and bulb remains unexhausted, and cannot, therefore, be owing entirely to the moisture.

Water that has been much in contact with the air, is always superior in fertilizing properties to such as has not been incorporated with it. This is owing to water being of itself incapable of serving as food for plants, and only acting as a promoter of fertility in proportion as it contains less or more of other substances. Atmospheric air, together with carbonic acid (a gas which that air always holds in limited quantity,) are of great utility in the economy of plants, and are usually found in combination with water. But the proportions in which these gases unite with water, vary according to their facilities for intermixture; and as agitation is favourable to

their intimate contact, the water of rivers which have run a long and rapid course, is much more beneficial to vegetation, than that which has remained for some time stagnant. Hence the profits to be derived from irrigation are enhanced by causing the water to flow, in preference to allowing it to stagnate on the soil. In addition to these gases, water which has passed through a lengthy channel, holds in suspension various earthy and organic particles, frequently calculated to ameliorate a soil, and to become a source of nourishment to plants. According to Sir H. Davy, (*Elements of Agricultural Chemistry*, 2 Edit. p. 352,) it may be taken as a general principle, that water containing salts of iron, though possessed of fertilizing effects when applied to soils impregnated with lime, is always injurious to soils which do not effervesce with acids, and that calcareous waters, which are known by the earthy deposit they afford when boiled, are of most use on sandy soils, or other soils containing no remarkable quantity of chalk.

Nitrogen and carbonic acid, though combined with many ingredients of soils, are only found in quantity in the compound termed humic acid. This acid, when resolved by the operations of the chemist into its ultimate elements, is found to be composed of oxygen, hydrogen, carbon, and nitrogen, besides a few saline and earthy matters, which are not considered essential to it. Primarily, it may be viewed as made up of a base called humin, united to the great acidifying principle, oxygen. Humin, or as it is occasionally termed, *vegetable mould*, is a dark-coloured unctuous substance, without either taste or smell, which has been found by several French chemists of celebrity to constitute the leading principle in soils and manures. It is formed by the slow decomposition of vegetable and animal matter, and varies slightly in quality according to the nature of the sources from which it has been derived. To it is owing the fertility of soils, and therefore, as we would naturally expect, it is met with in greatest abundance in the earth of gardens, and old well rotted dung hills. Chemistry can avail nothing in the formation of humin, for it is a product only obtainable from bodies that have been at one time possessed of life, and therefore it cannot be initiated by the dexterity of man. Everything gifted with an organized formation is converted, so soon as it has ceased to live, and has been deposited in a suitable locality, into this peculiar matter. The exposure to the atmosphere of dead animal or vegetable matter, together with frequent stirring or agitation of any kind, retards, and sometimes altogether prevents, the change which would under opposite circumstances gradually ensue. So long as humin is kept from contact with the air, it continues insoluble and antiseptic. It is consequently almost indestructible when situated a few feet below the surface of the ground, and at that depth is not only found, as in the instance of church-yards, in large quantities, but may also be retained unimpaired for an unlimited period. In such situations, too, it cannot undergo certain changes necessary to ensure its solubility, and it is therefore inert, and totally unfit for the purposes of vegetation. No sooner, however, is it brought by the plough or spade to the surface of the earth, than it begins to alter. Part of its carbon uniting with the oxygen of the atmosphere, forms carbonic acid, which is readily absorbed by the green parts of plants; while its hydrogen, combining with another portion of oxygen, produces water. "The residue becomes a *soluble extract*, and in that state is taken up readily by the fibres of the roots. But the changes still go on; the extract absorbs more oxygen, and becomes once more insoluble in the form of

a film, which Fourcroy calls vegetable albumen, and which contains a small portion of nitrogen readily accounted for. By bringing fresh portions of humin to the surface, and permitting the access of air to it, more carbonic acid, water, extract, and albumen are formed, and give a regular supply to the plants. * * Hence we see the great importance of frequently stirring the surface of the earth.' * *—(Penny Cyclopædia, article Arable, which contains an excellent condensation of the views of Thaer of Berlin, and Theodore de Saussure of Paris.)

This compound of humin and oxygen (*humic acid*) readily combines with many of the earthy and saline substances found in manures, and renders them of easy solubility in water. *Humates* (as they are termed by chemists) of lime and potass are in this way formed in the soil, and from the facility with which they are dissolved in water gain a ready access to the interior of plants. Of this action the old writers were completely ignorant, and therefore puzzled themselves to no purpose in endeavouring to account for the presence of so insoluble a body as lime in any quantity in plants. They had, however, a glimpse of the truth, as we cannot but identify the substances which they so vaguely treat of under the names of *vegetable extract, extractive, and mucilaginous matter*, as exactly similar to *humin* and *humic acid*, so ably described by the modern chemists of France and Germany.

The importance of humin to a soil, or rather to the plants which it supports, can hardly be over-rated. It is the chief supporter of vegetation, as well as an indispensable solvent of several earths and salts from which plants derive much aid in the progress of their growth. Its mechanical action on a soil is also of considerable moment, serving, as it does, two extremely opposite purposes, that of binding together and consolidating loose sands, and that of breaking up and rendering porous stiff clays. The effects produced in this way by rich manures, capable of affording a large supply of humin, are superior to those resulting from the application of any of the other repairers of a soil. It secures, too, when present in any quantity, a constant supply of moisture to the earth; and as the chemical action detailed above, by which the water is produced, always goes on with increased rapidity in warm weather, it follows that richly manured lands are almost safe from the bad effects of long-continued drought. Too great a quantity of water is, on the other hand, highly detrimental to ground containing much humin or organic matter from which it can be formed, as fermentation is encouraged, and a compound of an acid and astringent nature produced, which is exceedingly injurious to vegetation. Mosses, for example, are a kind of soil in which this process is constantly progressing. Hence the correct popular opinion that such land is *sour*, and hence the equally correct and well known mode of removing the astringency by draining the land and neutralizing it with lime.

FRANK SYLVAN.

TITHES COMMUTATION.

A Return to the House of Commons of the number of Notices of Commutation received by the Tithe Commissioners from the date of their appointment to the 1st March; stating what number of such notices have been received during each calendar month, and the names of the counties in which the parishes or districts are situated, for which such notices have given:—Also, Return of the number of Agreements by the Commissioners up to the same period; stating what number of such agreements have been confirmed,

and what number rejected, together with the grounds for such rejection; also, what number of such agreements are at present under the consideration of the different dioceses, or otherwise waiting confirmation.

	Notices received.	AGREEMENTS.			Under consideration of diocesan, or otherwise waiting confirmation.
		Received.	Confirmed.	Rejected.	
ENGLAND:					
Bedford	5				
Berks	3				
Bucks	4				
Combridge	9	2	1	..	1
Chester	30	6	2	1	3
Cornwall	14	2	..	..	2
Cumberland	12				
Derby	6	2	2		
Devon	44	5	1	..	4
Dorset	16	4	2	..	2
Durham	6				
Essex	26	3	2	..	1
Gloucester	19	1	1		
Hereford	8	1	..	..	1
Hertford	15	2	1	..	1
Huntingdon	9	2	..	..	2
Kent	31	2	2		
Lancaster	18				
Leicester	3				
Lincoln	30	2	..	..	2
Middlesex	1	1	1		
Monmouth	7				
Norfolk	51	6	1	..	5
Northampton	3	2	..	..	2
Northumberland ..	5	3	2	..	1
Nottingham	2				
Oxford	7				
Rutland	8				
Salop	19	5	3	..	2
Somerset	63	11	7	..	4
Southampton	34	5	1	..	4
Stafford	12	2	1	..	1
Suffolk	41	12	1	..	11
Surrey	13	1	1		
Sussex	25	5	1	..	4
Warwick	10	2	..	..	2
Westmoreland	4	1	..	..	1
Wilts	19	5	1	..	4
Worcester	9				
York, East Riding ..	9	1	..	..	1
„ North Riding ..	20	6	4	..	2
„ West Riding	8				
WALES:					
Brecon	4				
Cardigan	3	3	..	..	3
Carmarthen	13	1	..	..	1
Denbigh	7	1	..	..	1
Flint	10	1	..	..	1
Glamorgan	6				
Merioneth	6				
Montgomery	6				
Pembroke	17	1	..	..	1
Radnor	3				
	753	109	38	1	70

N. B.—In addition to the notices for commutation received by the tithe commissioners, as above stated, they have good reason to believe that a great number of notices have been given, of which they have not received copies, but which are intended to be sent up with the agreements for commutation, if such agreements are completed.

The agreement not confirmed was rejected, because it contemplated only a partial commutation of tithes, and because the patron's consent was defective.

EXPERIMENTAL FARMS.

Whatever difference of opinion may exist as to the advantages which might be derived from the establishment of "experimental farms," there can be but one opinion as to the merit of the "OBSERVATIONS" upon the subject, from the pen of Mr. George Lewis, of Boghlie, Kirkaldy, N. B. There are, we believe, very few publications upon agricultural subjects of which we do not possess ourselves, and to all of which we give a diligent perusal; and we can state with perfect sincerity, that scarcely excepting "Mr. Hillyard's Practical Farming," there is not one publication which we have read with so much delight, and to which we give such unqualified approbation as to Mr. Lewis's "Observations upon Experimental Farms." Not having ever had the *practical* arguments in favour of the establishment of "Experimental Farms," so clearly, forcibly, and methodically placed before us as has been done by Mr. Lewis, we were, after the perusal of Professor Lowe's speech, delivered at the meeting of the Highland Agricultural Society, rather disposed to coincide in his view of the subject; we now, however, plainly confess, that our doubts are altogether dispelled, and we no longer entertain any doubt of the benefit which "agriculture" would derive from such establishments. To those who have not read the pamphlet to which we allude, it would seem impossible that arguments, abounding in such valuable practical information, could be advanced upon the question. The subject has been very judiciously divided into separate heads, each embracing some important topic, the *desiderata* upon which are pointed out in a manner which cannot fail to strike the reader. We have before stated that we entirely agree with Mr. Lewis in the beneficial effects which would be derived from the adoption of his scheme; but we differ very materially in the manner in which he proposes to carry it into practice. Mr. Lewis says, "The farm should contain from 500 to 1,000 acres, and be fitted to carry all kinds of grain, roots, &c., common to the country. Now we hold it to be impossible that any farm can be selected upon which effectual experiments upon all subjects can be tried, the results of which shall be applicable to the whole country. It is quite true, that upon certain *general* questions, the results of experiments, upon whatever soil, and in whatever situation, may be *generally* useful. Experiments upon the best and cheapest mode of feeding cattle and horses, the most economical system of reaping and *harvesting* grain, the improvement of the thrashing machine, or the advantages of sowing the most productive and early varieties of grain, can as well be made on a sand as on a clay, on a chalk, as on a loam, and the results will be equally useful to the occupiers of every species of soil. But in order to ascertain the particular species of grain, pulse, seed, or root, best calculated for cultivation in any particular soil,—to learn the kind of manure, the application of which shall be most efficient in any given soil,—the experiment must be made upon that particular soil. Mr. Lewis foresaw the objection, and has anticipated it by an answer which we do not think satisfactory.

He says, "the objection would be obviated by a committee being appointed in every county, who would communicate to the manager of the (experimental) farm anything worthy of remark; and on the other hand, this committee would be entrusted by the manager, to try the results of seeds, roots, &c. on the different soils, and under the different climates of Scotland, which could not be tested on the experimental farm; thereby turning the whole country into one wide field of experiment through the exertion of the manager and the different committees."

Now, we are far from saying, that because we cannot arrive at perfection, we should not improve as much as we can; and therefore it is, that we hope to see Mr. Lewis's plan carried out; but, at the same time, we must give it as our opinion, that the scheme cannot be complete, unless by the establishment of "experimental farms" upon the different leading soils, as clay, sand, chalk, loam peats, &c. There are, of course, many other kinds of soil, but they may be considered as differing from the leading ones only in certain degrees, and therefore the experiment, which would apply to the genus clay or sand, would, with a trifling variation, be suited to the different species. Independent of the sound practical knowledge which Mr. Lewis displays in every page of his work, we are happy to find that his opinions are no less sound as regards the means whereby the situation of the agriculturalist can and must be improved. Speaking of agriculture, he says—"It becomes all who are interested in the future welfare of the country to adopt those measures which may be best fitted to advance this fundamental source of industry and wealth. We wish for no artificial prop or legislative restriction. This would only be bettering the state of agriculture for a time, by an unjust depression of some other department of industry more or less connected with it. All that we wish is, the development of the inherent and native energies of the soil, being fully convinced that nothing more is required to place it in a prosperous and a permanently improving condition." Setting the question of "Experimental farms" entirely aside, and simply looking to the valuable information which is contained in Mr. Lewis's pamphlet, and which no practical farmer can peruse without advantage, we most earnestly recommend it to all our agricultural friends.

BONE MANURE.—A Correspondent solicits an answer to the following query. We shall feel obliged by information from any of our readers who may have turned their attention to the subject:—

Query.—Is it possible to form a *fictitious bone dust*, by impregnating lime with phosphoric acid, so as to form a cheaper manure to the farmer than the present expensive bone dust, which is often not to be got in sufficient quantity? It is granted that phosphoric acid is procured from bones, but where does nature procure it to form those bones?

THE ARMAGH PLOUGH AND SUSSEX PLOUGHING.

The *Newry Telegraph* has recently contained a review of the reports and opinions expressed by us, upon the late Hailsham ploughing match. Whether from mistake, or otherwise, the person named Hutchinson, who came from Ireland with the Armagh plough, has led the writer of that paper, and even Mr. Blacker, his patron, into considerable error, both as to the husbandry of this county and the opinions which Sussex farmers entertain upon the subject of ploughing. The writer alluded to states, that at the Hailsham dinner, "from the account given in the *Sussex Agricultural Express*, it appears that a very considerable discussion took place as to the correctness of the principle upon which the premiums were awarded, in which Mr. Hutchinson endeavoured to show the superiority of what is called *square ploughing*, viz., when the furrow is inclined at an angle of 45 degrees, by which means each succeeding furrow rests one half on that which precedes it." Under the supposition, no doubt, that this opinion was not entertained by the Sussex farmer, Mr. Blacker published a letter from Mr. Henry Stephens, who states that this opinion is grounded upon a just principle. If the Sussex farmers ever entertained a difference of opinion upon this subject, they would indeed be placed under great obligations to these gentlemen; but as the case stands, there is not a Sussex farmer but who has for years considered the square ploughing best, and it is invariably practised throughout, as far as it can be accomplished; but there are some lands on which the laving of the furrow, from the nature of the soil, where the ploughman is less successful; but the nearer the furrow can be turned to this angle the more perfect and business-like is the ploughing admitted to be on all sides; and the reason why Hutchinson did not gain a better premium was that, "the one furrow was not pressed sufficiently against the other to prevent the seed falling down between." Having disposed of the erroneous ideas entertained in Ireland about Sussex opinions of good ploughing, little remains for us to discuss upon the subject of the comparative merits of the Scotch and the ploughs used in our county. Mr. King, as will be seen by the letter subjoined, has met all the points so faithfully as to relieve us from entering upon them. But in concluding our remarks, we beg to observe we shall be perfectly justified in stating that, from what we know of the character of the agriculturists in Sussex, they are not iron bound to their system of farming, or to the employment of their ploughs, but are open to conviction, and would most willingly and energetically adopt any rational improvement, with which they had received facts and proofs, such as enlightened men require; but we commend them strongly in keeping to that which they know does succeed, rather than to adopt plans and principles of which they are uncertain. The writer to the *Newry Telegraph* seems to entertain the idea that the farmers in Sussex are isolated in their habits, and scarcely, if ever, move out of their homesteads. This view is incorrect and unjust towards them, for among them are men of scientific attainments and of great practical knowledge, who have watched all the systems of farming practised, and do introduce into the county such improvements as are adapted to its soil. For instance, the Armagh plough is no novelty, it was used fifteen years ago in Sussex, and the land upon which it was employed, by practice, that stern schoolmaster, it was proved to be no improvement over the ploughs of the district. In stating this, we wish not to be under-

stood as rejoicing in the triumph of the Sussex ploughs over the Scotch, but merely to vindicate the character of the Sussex farmers from the reflection of being incapable of entertaining any improvement not introduced by themselves, nor do we wish to infer that the Scotch plough would not be an improvement, if introduced upon some soils in Sussex. We entertain the homely opinion that ploughs of different construction are necessary for different soils, and do not encourage the opinion that one plough is alike adapted to the stiff as well as the light soils of our county, or that two horses on heavy soil will not be less fatigued than upon a light soil, no more than we do in the Morrisonæa rage for the universal medicine; and these views lead us to speak highly of ploughing matches, which we believe are calculated greatly to increase the spirit of inquiry, and to furnish proofs of the relative value of the respective ploughs.

TO THE EDITOR OF THE SUSSEX AGRICULTURAL EXPRESS.

SIR,—May I request you to insert in your next number the following contradiction, which I feel it is my duty to make, to a statement contained in an extract from the *Newry Telegraph*, presented to the readers of the *Sussex Advertiser*, on Monday, the 3rd ult., respecting Mr. Hutchinson's (the Armagh Farmer's) performance with his plough and two horses, at Berwick Court. I should have noticed it last week, but it is very seldom I see the latter paper, and am in this instance indebted to a friend for making me acquainted that such a paragraph had been published, since then, however, I have had an opportunity to peruse the *Newry* paper itself.

It is quite true, Sir, that Mr. Hutchinson came to my farm with his plough, and that he first essayed upon a piece of very heavy red land, which the *Newry* paper reports was encumbered with heaps of stones. I beg to remark that the stones, (of which however there were but few) being collected, was an advantage instead of an annoyance to Mr. H., as he had not to contend against them; and his ploughing a few perches only, arose from the little time he had to spare, and if he had extended his furrow in length, he would have gone down a hill which would have made it very difficult for the horses to have drawn the plough up again, in which opinion Mr. H. then coincided, as upon the level part of the field and in a short furrow it was by great exertion that the plough could be moved, and they were glad of the opportunity to turn. I have no hesitation in giving it as my opinion, that if two good horses were called upon to plough half an acre per day upon such a soil, that in a very short time they would be so worn as to be quite unequal to that task; so that six horses in three ploughs would accomplish less work, be more exhausted, and require three men to hold, which with the Armagh plough is no boy's work, whereas, the same strength applied to turn the Sussex wheel-ploughs would accomplish more labour, and do it better, be less wearing to the cattle, and prove altogether more economical, as two men and two boys to drive, would do instead of three men.

The next thing alluded to, is Mr. H. testing his plough by the side of my man with four horses. Now, Sir, it is at all times particularly unpleasant to charge any person with wilful misrepresentation, but in this instance, I have no alternative, as the *Newry* paper has reported Mr. H. to have stated a positive falsehood, as in applying the machine, the difference of draught between the two ploughs was only half a cwt., or about one quarter. My neighbour, Mr. Stace, brought the machine, and watched it with Mr. Star, Mrs. Gilbert's steward, and another servant, who came with him. Mr. H. is quite aware that Mr. Stace pronounced such to be the fact, and which was not at the time contradicted; as to the string breaking, it is too frivolous to notice, although in this instance it was accounted for by the ring through which it passed being so worn as to

AGRICULTURE.

(FROM THE FARMER'S ADVOCATE.)

The following extracts from American Agricultural publications will not be uninteresting to English readers.

The scarcity of every kind of grain in a country considered to be essentially agricultural, and affording an easy and unlimited field for the operations of husbandry is a circumstance so very extraordinary, as to render an investigation of the causes highly important, as well to prevent a recurrence of the evil as to ascertain whether the vicissitudes of our climate are such as to render man's utmost efforts unavailing; or whether the evil is occasioned by an imperfect system of farming, and a habit of placing unlimited confidence in the unassisted operations of nature. The most obvious way of accounting for the short crop of the present year is by attributing its partial destruction to the unusually early and unseasonable frost. While this may be true, it warns us to be prepared always for the worst rather than for the best; and teaches us the propriety of cultivating only such grains and roots as are least likely to be affected by early frosts, and which arrive at maturity in the shortest space of time.

Of the different kinds of grain and roots there are infinite varieties. The earliest kinds answer our climate best, and although the late kinds may also be cultivated with success in favourable seasons, they cannot in all years be depended upon. The cultivation of the early kinds also afford more time for the operations of spring and harvest. Of oats, wheat, and peas, there are varieties of early and late. Barley comes to maturity in a shorter time than any of these, and consequently is perhaps better adapted than any other grain for extensive cultivation in this country, always commanding a ready market, and capable of being converted into an excellent substitute for flour in scarce years. Yet with all these obvious and undoubted advantages there is no quantity of barley worth naming raised in the townships. Of potatoes there are late and early varieties. Some which are very prolific and fit for long keeping, others which have all the worst qualities of the root combined, and yet this excites little attention amongst our farmers. A potatoe is a potatoe and that is all the majority of them look for. Much may be done to obviate all chances of short crops by bestowing greater care on the soil and reducing the tillage land within a smaller compass. There is no advantage in half cultivating large tracts—the returns seldom repay the labour necessarily bestowed on them. An acre well cultivated and well manured, will yield as much as three acres under the ordinary tillage of the country, and the labour required is much less, but even good tillage will avail very little, if the seed is bad. It is not enough that a farmer does one thing well—neglect in any one particular, may ruin the whole.

The extensive cultivation of the Swedish turnip is one of the greatest improvements of modern English farming. The returns per acre taking the proportion of nutritive matter contained, are greater than those of any other known root; they are easily cultivated—exceedingly hardy and not liable to be injured by frost—they admit of being transplanted, and thus afford plenty of time for the preparation of the land—and whether for the

cut nearly as sharply as a knife. I should observe that Mr. Stace very seldom uses the old wheel-plough, and is certainly above any suspicion of prejudice in its favour. Mr. Hutchinson says, that I did not dispute that he made as good a furrow as my own man. I was silent because I considered the imperfect manner in which his plough, comparatively with my own, performed, was so obvious that it did not require me to inform a pupil of Mr. Blacker, and one too who boasts of a mathematical knowledge upon the subject, that such was the fact.

The Newry paper charges the Sussex farmers with being bigoted, and slow to improve, and states, that if a ploughing match had taken place in Ireland, the competition would have been much greater. It is, however, to be remarked, that the premiums offered upon this occasion were confined to two horses, to be driven with reins, which is not at all practised in the neighbourhood of Hailsham, which of itself accounts for the ploughs not being more numerous.

That Mr. H. had to contend with some annoyance from the curiosity of those assembled at Hailsham, no one can dispute; but it is quite a mistake to suppose that the premium was withheld because he laid his ground at an angle of 45, but because he did not do so, as his furrow in too many instances was not sufficiently turned to form that angle. The editor of the *Newry Telegraph* remarks that Mr. Pagden wished the furrow to be laid as flat as a card player lays his tricks, which induces me to think that the editor knows more of card playing than ploughing, as nothing Mr. Pagden said upon the occasion can admit of such a construction.

I really believe from the pains taken to disseminate the circumstance, that it is believed in distant counties that the farmers in Sussex generally use four horses and a pair of oxen to a plough. That, at any rate, is such a team as I never saw, and must have been used for the purpose of heaping ridicule upon the farmers of the county. Now the fact is, there will be found as great a variety of ploughs in Sussex as in any county in the united empire, and I should think more land is ploughed with two than four horses; and surely the charge of bigotry or prejudice is rather applicable to those who would fain persuade us that the heavy black soil at Beddingham, Alciston, and Berwick, can be ploughed with two horses as easily as the sandy land at Midhurst or Pulborough. I should imagine that the practical knowledge of the Sussex farmer is best exemplified by his suiting his plough to his soil; and until the *Newry Telegraph* can prove one soil is as easily ploughed as another, he will have some difficulty in proving one plough eligible for every part of the kingdom.

I am ready to run the risk of being charged with too much presumption or conceit, but I have no hesitation in stating that I believe ploughing to be as scientifically understood, and as well practised in Sussex, as in any county in England. I have omitted to notice the exultation displayed when the first premium was awarded to the old Sussex plough. Surely such feeling was excusable, after the severe reflections which had been cast upon Sussex ploughs and men.

Scotch ploughs are no novelty in Sussex, as they were tried at Berwick Court twenty years ago, by Mr. Jenner; likewise at Clapham, by Mr. Hitchins. The latter had ploughmen from Scotland, in order that the prejudice of the servant might be no obstacle; but after two or three years trial they were discarded, and fell into disuse.

I am sorry to have intruded so much upon your columns, but as the *Sussex Advertiser* has favoured the public with such copious extracts reflecting upon the intelligence of the Sussex agriculturists, you, as a friend to their interests, will I am sure see the necessity of a reply to them. With that apology only, I beg to subscribe myself,

Your constant reader,

JOHN KING.

April 12, 1837.

stall or the dairy—whether for feeding oxen, sheep, or pigs, they are equally valuable; for man also they are an excellent vegetable.

The efforts of agricultural societies in England have been chiefly instrumental in forwarding agricultural improvements. The application of principles purely scientific to practical farming, has operated a change which has, at least, increased the produce of the country fourfold. We want agricultural societies in this country; and when such properly constituted societies do exist, the first great benefit which they can confer on the country, is to introduce from other countries seeds suited to our climate, and discourage the cultivation of such grains and plants as are adapted only for longer seasons and milder climates.

As the township farmers are beginning to turn their attention to the growing of wool, (the Land Company having created a market for it,) the following information—being the result of well established facts—respecting the most profitable food for sheep, will be of great importance if properly attended to. We recommend every farmer to preserve this number of the Advocate, if not in the habit of keeping a regular file, which, by the way every man should do. One word as to the profit of growing wool. A friend of ours in Brompton, informed us that about a year since, he purchased fourteen sheep, and after wintering them, he sold their wool to the Land Company, for money enough to pay for their keeping and the first cost of the sheep.

WINTER FOOD FOR SHEEP.—Every farmer is aware, that one of the chief difficulties in the raising and management of sheep consist in preserving them through winter, without disease or loss. Hence every fact or hint in relation to their winter management becomes of the first importance. It is indispensably necessary that sheep should be kept in condition in order to prevent disease; and it is a secondary point, yet one to which much attention should be paid, to make use of the cheapest kinds of food.

With regard to the quality and nature of food, it should be such as to keep them in a strong healthy state, and rather full of flesh, yet not partaking too much of *fatness*. This good condition, even if maintained at considerably greater immediate cost, will be found by far the most profitable in the end; for independently of the constant danger of loss by death, when are ill kept, they shear much less wool, and the future progeny is much weaker, in consequence of such imperfect management.

One of the most necessary requisites to be observed is constant and regular feeding. Sudden changes from scanty to plentiful food, are highly detrimental, as is also the reverse. Perhaps the only exception to this remark, is the case of ewes rearing lambs, which require better feeding than in ordinary times.

The *quality* of the food is a thing of much consequence, and the *quantity* must be adapted to the quality. It is satisfactorily ascertained, that hay alone is not adapted to keeping sheep in the best condition. Still less is it if they are not allowed a constant supply of water. But the intermixture of roots, and particularly mangel wurtzel, is found to produce an excellent effect. A very successful manager of sheep, whenever he feeds any kind of roots or grain, first gives them a foddering of straw in order to fill them, as he does not consider the roots digest so well on an empty stomach.

In order to be able to proportion the different kinds of roots, grain, &c. according to their nutritive qualities, it is necessary to know in what proportions those qualities exist in them respectively. The following table exhibits the results of the experiment of the distinguished agriculturist De Raumer, on the effects produced by an equal quantity of several substances in increasing the flesh, tallow, and wool of sheep.

	Increased the weight of the living animal.	Produced Wool.	Produced tallow.
1000 lbs. potatoes, raw,	lbs.	lbs.	lbs.
with salt,	46 $\frac{1}{2}$	6 $\frac{1}{2}$	12 $\frac{1}{2}$
do without salt,	44	6 $\frac{1}{2}$	11 $\frac{1}{2}$
do mangel wurtzel raw,	38	5 $\frac{1}{4}$	6 $\frac{1}{2}$
do wheat	155	14	59 $\frac{1}{2}$
do oats,	146	10	42
do barley,	136	11 $\frac{1}{2}$	60
do peas,	134	14 $\frac{1}{2}$	41
do rye, with salt,	133	14	35
do do without salt,	90	12 $\frac{1}{2}$	42
do meal, wet,	129	13 $\frac{1}{2}$	17 $\frac{1}{2}$
do buckwheat,	120	10	33
do good hay,	58	7 $\frac{1}{2}$	13
do hay with straw without other fodder,	31	15 $\frac{1}{2}$	6 $\frac{1}{2}$

These results agree nearly with those of De Dombale, and with those of number of other agriculturists.

It has also been ascertained by the experiments of some eminent agriculturists, that,

One lb. of oil cake is as nutritious as two pounds of hay.

200 lbs. of good sound straw of peas vetches are equal to 100 pounds of hay.

300 lbs. barley and oat straw are equal to 100 lbs of hay.

400 lbs. of wheat straw are equal to 100 pounds of hay.

It will be perceived by the above table, that *wheat* produces the greatest increase in the flesh of the living animal, though but little greater than oats; that *peas, wheat, rye, and hay mixed with straw*, produce the greatest increase of wool; and that *barley and wheat* causes the greatest increase of tallow.—That as an average, grain generally give about three times the increase in the flesh, that roots and hay do when in equal weight; that grain produces about twice as much wool as is caused by an equal weight of roots, and several times the amount of tallow, that is produced either by roots or hay. But as an equal weight of mangel wurtzel may be raised at an expense of one-tenth of what is required for the production of most kinds of grain, the vastly superior economy of its use as food for sheep for everything except fattening, will be at once perceived.

De Raumer found, that sheep ate with avidity eight pounds per head of mangel wurtzel a day, intermixed with straw; during which time they drank one quart of water, and remained in good and healthy condition.

That of raw sliced potatoes, they ate with good appetite at the rate of seven pounds per day, also with straw, and drank three pints of water in twenty-four hours. Also remained healthy.

That they ate two pounds of peas per head daily, drank from two to three quarts of water, and re-

mained fine and healthy. It was necessary to soak the peas to prevent injury to their teeth.

That wheat produced nearly the same results as peas.

That they do not eat rye readily, and it appears not well adapted for their food.

That of oats and barley, they ate about two and a half pounds per head daily, with avidity, did extremely well on it, and drank about three quarts of water in twenty-four hours.

That buck wheat produced excellent effects upon them, which they ate with avidity.

And that of good hay they ate four and a half pounds daily, and drank from two and a half to three quarts of water.

As a large number of fine woolled sheep have been introduced into the country within a few years, it is absolutely necessary, in order to render them most profitable, that they be well sheltered during winter. In those countries in Europe which are most famous for the growth of fine wool, strict attention is given to this subject, and sheep are not only sheltered in the night but whenever the weather demands it during the day. It is said that on this depends in a great degree the fineness and quality of the wool. Sheds, at least, should always be provided for the most hardy breeds of sheep; much more so then, ought they to be for the more tender, fine woolled varieties.

We conclude these observations with the remarks relative to the importance of water and succulent food to sheep during winter, of J. Barney, Esq., of Philadelphia, whose experience and skill on this subject are well known. To a gentleman who visited him, he showed from fifty ewes, upwards of sixty lambs, all lively and brisk, with a loss of perhaps three or four. The gentleman observed to him that he had his shed covered with dead lambs, and asked wherein the secret of breeding lay. He answered "you stuff your sheep with dry food?" "Yes as much good clover and hay as they will eat," was the reply. "You give them no water, but suffer them to go out in the time of snow and eat as they are disposed to do?" "Yes." "Then there lies the secret. Your sheep fill themselves with hay; they get no water; and they have not a supply of gastric juice to promote digestion of the hay in the stomach; they cannot raise to chew the cud; they lose their appetite; are thrown into a fever; and cannot bring forth their young; or they bring a feeble, starved lamb that often dies on the first exposure to the cold and rain. On the contrary I take care to provide my sheep with good clear water in summer and winter. I feed them regularly with hay through the winter and give them ruta бага and mangel wurtzel every day. The ewes produce me 120 per cent. in lambs. You cannot get along without ruta бага and mangel wurtzel.—*Genese Farmer.*

During the last gale a larch tree, 49 feet long and 17½ inches average girth, free from arms, was blown down near the Hall at Melton Constable. It is supposed to have been planted by Sir Edward Astley about 70 years ago. There were three Scotch firs lately cut down on Sir Jacob Astley's estate, which contained three loads of timber each; and it is conjectured, that there are finer silver, Scotch, and larch firs at Melton than on any other estate in the kingdom.

SWEDISH TURNIPS.

There are three most essential requisites to obtain a good crop. First, the land must be congenial to their growth—clean, full of mould, and not very clotty. Secondly, a proper quantity of good manure, well covered in the land, and not exposed to the atmosphere so as to lose its nutritious qualities. Thirdly, seed raised from a sort proved to be good, drilled at the proper depth and distance and at the proper season. With these indispensable requisites, with favourable weather, and, if the plants are not injured by the fly, and well hoed (twice or thrice if necessary), a good crop of Swedish turnips (which is of greater value than is generally supposed,) is almost sure of being obtained; but if there is a deficiency of any of these requisites, it will be advisable to sow common turnips, and if there should be a deficiency of most of them, not to sow any; for half a crop of turnips with a full crop of weeds, puts the land into a bad state, and by expenses takes money out of the farmer's pocket for as wasteful a purpose as if he ploughed his cash into the land. It is unnecessary, and in my opinion injudicious, to consume on the land by sheep the whole of a full crop of Swedish turnips: it is making most land too rich for a good crop of barley; very heavy crops always produce corn of inferior quality; and generally speaking, in all descriptions of grain, when the quality is inferior, the quantity seldom turns out so much as expected. The consequence arising from a layered crop of barley is generally a half, or perhaps a quarter of a crop of clover; and nothing can be worse, for the land will be covered; if crops do not come weeds will, and thus injury is sustained in future crops. If half of a good crop of Swedes is consumed on the land, it is quite as much as it requires, the remaining half may be carted off to improve the quality of the manure in the yards, or to be consumed by sheep on other parts of the farm that may want enriching. Swedes wanted for stall feeding before Christmas should be sown the latter end of May; but for that purpose only, the tops being likely to mildew in September, and the bottoms to rot in the spring. For sheep feed they may be sown as late as Midsummer; common turnips from Midsummer to the middle of July. The greatest weight of Swedes is to be got drilled on ridges, 27 inches asunder, and the plants left twelve or fourteen inches apart. But drilled on a flat surface, in rows fourteen inches asunder, (care being taken that the manure is well covered) answers as well for spring sheep keep as on ridges, the turnips not being so liable to be injured as Swedes on ridges sometimes are, during a winter with a repetition of frosts and thaws. It is best to form the ridges, and sow the seed, when the land is moist, the plant then coming up earlier and stronger, and of course sooner getting out of the power of the fly. It is much better to have moist mould thrown on the dung than dry. I do not like however to have the ridges formed when the land is very wet, for then they are apt to become so hard and crusty at the top, that the seed plant (particularly mangel wurtzel,) cannot work its way out of the ground. Most Swedish turnips run too much to top, and produce many worthless fangs at the root. By getting, a few years ago, seed from Sweden, I have got a kind that produces a small top, with a tap root only; and having widely circulated my seed, the Thorpeland Swedes are well known in many distant counties. Each year I sow a small quantity of any sort well spoken of,

but have not yet met with any I like so well as my own; the tops of which coming up weaker, they do not seem at first to promise so well for a crop as the coarser kind, and besides which the fly has more power on them. The fly is not one-tenth part so troublesome in some parts of England as it is in others. I am informed that in the north they are not so much troubled with it; and from personal observation I know they are not on the coast of Norfolk and Suffolk; the cold blasts from the great Northern Ocean do not suit them. I am inclined to believe that the sea fogs, so common on those coasts, are a benefit to the turnips grown there. There are few persons take the trouble of being so particular as I am in raising Swedish Turnip seed. I superintend the selection, and see that not one turnip is planted that has run out of shape. And to prevent any inoculation by bees when they are in flower, I will not suffer any thing of the turnip or cabbage tribe to run to seed in my kitchen garden, although it is 500 yards from where my seed is growing. When it is raised near a village, there is no security against inoculation. My ridged crop of Swedish turnips is this year unusually small, but I think I may without presumption say, I believe, that there is not to be seen at this time (August 31), a finer or cleaner crop. To show the difference between the crops, I had some drilled on a flat surface, and as I well knew, the ridges will certainly produce much the greatest weight per acre. By having nearly twice as many turnips on the flat as on the ridges, it might be supposed that a greater weight might be produced. I have tried the two ways, both sown at the same time, and found the ridged turnips so much larger, that they produced the greatest weight per acre. A Swedish turnip is doubled in weight by a small increase of its girth.* I have often been somewhat incredulous as to some of the reported weights per acre of Swedish turnips; for having been for some years past in a sweepstakes with Lord Spencer, I consider, from the weights we have produced, five and twenty tons per acre a good crop for regular tillage land that has, the previous year, borne a crop of white grain. Around Manchester, where they can obtain such immense quantities of good manure, and have, during the summer, three times the quantity of rain that we have in this county, they can produce a greater weight per acre of Swedish turnips than we can; for turnips cannot have too much rain. I recommend that land intended for turnips (but think it not so necessary for corn) should be ploughed up at the beginning of winter; and if it is free from couch, and intended for Swedes a small quantity of dung ploughed in, (not too deeply,) will produce good effects, by causing the infant plant to grow stronger and quicker, and therefore sooner free from the attacks of the fly.

After numberless trials to prevent the ravages of the turnip fly, the only way which I found at

* With Northumberland ridges a certain degree of fallowing is carried on during the growth of the turnips. As to a broad-cast crop of Swedes, I think that quite out of the question with a good system of farming. Three pounds of seed per acre is my usual quantity. Swede turnips will keep stacked in the field very well, in not too large heaps; and I think it a good plan to have a reserve of unfrozen turnips there for sheep, in a hard frost. They will keep through a long frost by being placed in rows close to each other, with the roots cut off, the tops thus forming a pretty secure covering.

all successful is, to collect all the weeds I can on the farm, and lay them in heaps all round the field sown with turnips; on the plants coming up, and showing the least appearance of being attacked by the fly, the heaps to windward are set on fire, brimstone is put in the fire, and thus the strong smoke which is very offensive to the insect, is wafted over the crop. If this is continued till the turnips get into rough leaf, they will be safe; but if before this the process is stopped for five or six hours together, in a fly working day, the crop most likely will be lost; therefore I have not scrupled on a Sunday to have the fires lighted before the morning, and also before the afternoon service. When, some years ago, I mentioned my smoking-fly preventive scheme, after dinner at our Society's Annual Meeting, I got a little smoked myself; but having had, last year, a full crop of Swedes, which was a very rare sight, I have had the satisfaction this year (1836,) to see my plan adopted on the Farm of the Noble Patron of our Society, and on many other farms in the county. I think my smoking plan might be serviceable to protect hops from the insects which attack them. The fly commences, and ceases to commit its depredations, at such different times, in different seasons, that no one can with any degree of certainty fix the time for sowing, when the crop shall be least likely to be injured. The fly likes only the smooth seed leaf of the turnip, if that is eaten, the plant dies. When they cannot meet with seed leaves they will eat holes in the rough leaf, but they cannot thus destroy the plant. When corn crops are mowed, they will then prey on the young clover plants. No one has yet been able to prove where the fly is produced. Some assert that it comes from the earth; others that it is bred in the seed. I made an experiment two years ago, which satisfied me and all those I showed it to, that it comes out of neither. When my turnips were sown, I covered a piece of land with a large square of thin gauze, which I so fastened down that no insect could creep under it. Under the gauze, the turnips were not touched by the fly; all round it they were eaten and destroyed by it. Where the insect is generated, is not known, it flies in the air like other insects, and although it may appear strange to us, it has the power to discover that there is food for it as soon as the turnip leaf appears above ground. I have dwelt long on the cultivation of mangel wurzel and turnips; but I trust that the generality of my readers will so agree with me as to the great value of these crops as not to think me tedious.—*Hillyard's Practical Farming.*

WESTERN AUSTRALIA. — (FROM THE SECOND REPORT OF THE WESTERN AUSTRALIAN ASSOCIATION.) — The following vegetables thrive in this Colony most abundantly, turnips, cabbages, cauliflowers, radishes, lettuce, carrots, onions, potatoes, peas, kidney beans, beet, &c. These vegetables are highly productive, equal in size, and generally superior in flavour, to those grown in England. Long-pod and Windsor beans, are not productive. The various kinds of pot-herbs, such as thyme, parsley, &c., thrive extremely well. The various kinds of melons, such as the rock, cantalope, romana, and water, bear fruit abundantly, and are of the finest quality, as to size and flavour. Cucumbers grow remarkably fine and good; and pumpkins and gourds are of large size, and very productive.

* * * The fruits most plentiful, at present, are peaches, figs, and grapes; it is not possible for any fruits to be doing better than these are, as regards their

productiveness, quality of fruit, and healthy growth. The almond hitherto has not done well; the walnut tree thrives well. Within the last year or two, a considerable number of apple, pear, plum, orange, lemon, guava, and other trees, have been introduced, these are in a healthy and thriving state. The price of vegetables, at the time of their first production, after the settlement of the Colony, was very high. The first cabbages were sold at 2s 6d each; they are now worth one penny or one penny halfpenny each, of large size, full hearted, and of excellent quality. Potatoes were first sold at 1s 8d per lb; the price is now one penny halfpenny. Peas were sold 2s per quart (unshelled); they were sold during the present season, at 1s 6d per peck. Onions, three years ago, were worth 5s 6d per lb; they are now one penny. The first water melons sold as high as 10s 6d each; they may now be purchased for 2d or 3d each. Rock melons were 5s each; their present price is 6d. Cucumbers, that at one time produced 9d, are now sold at one penny each. Two years ago, the grapes were sold at 2s 6d each lb; their present price is 9d. Peaches, two years ago, (the first offered for sale,) were one shilling each; they are now sold for 2d each. Figs were four for a shilling; they are now sixpence per dozen. You will see, by the few instances I have stated, in the former part of my letter, how greatly vegetables and fruits have fallen in price, since the first settlement of the Colony; they will still continue to fall in price, as we have soils and climate so well adapted to their growth; a climate during the winter season, sufficiently cool to bring the greater part of those vegetables common to England, to the greatest perfection; and, during the summer season, sufficiently warm to bring to the greatest maturity fruits common to the south of Europe, and, likewise, some of a tropical character.

It appears by the tables laid by Mr. Couling before the Emigration Committee, that the arable and pasture land of England and Wales amounts to 28,749,000 acres, of which sum he supposes the arable land and gardens to amount to 11,143,730 acres, leaving 17,605,270 as meadows, pastures, and marshes. In 1812 Mr. Stevenson estimated the arable land at 11,500,000 acres; and, it is believed, it may be now estimated at 12,000,000 acres.—According to Mr. Middleton, supposing it to amount to 12,000,000 acres, the arable land of England and Wales would be appropriated as follows:—

	ACRES.
Wheat	3,300,000
Oats and Beans	3,000,000
Barley and Rye	900,000
Roots	1,200,000
Clover	1,200,000
Fallows	2,400,000
Total	12,000,000

The following account, deduced from the Agricultural Report published by the Board of Agriculture, shews the productiveness of the different species of crops in the following counties:

Counties.	ACRES.						Potatoes. Bush.
	Wheat	Barley	Oats.	Rye.	Peas.	Beans.	
	Qr. a.	2r. b.	Qr. b.	Qr. b.	Qr. b.	Qr. b.	
Berks	2 4	4 0	4 0	3 0	3 0	4 0	..
Gloucester	2 6	3 0	2 4	0 0	0 0	0 0	..
Hertford	2 4	3 6	4 0	0 0	3 0	3 6	..
Monmouth	2 2	3 4	3 1	0 0	3 1	3 1	15
Oxford	2 4	3 4	4 4	0 0	2 4	4 0	2s
Somerset	2 4	3 4	4 0	3 0	2 4	3 0	240
Wiltshire	2 4	3 6	4 0	3 0	2 6	3 2	240

—Wiltshire and Gloucestershire Standard.

BONES.—The Brussels papers state that in the Chamber of Representatives the project of law on the importation and exportation of bones has been adopted, after a pretty long debate. Bones of all descriptions, except sheep's trotters, whether they contain gelatine or not, are to pay per 1,000 kilogrammes—

IMPORT. EXPORT. TRANSIT.

f0 20c f0 30c f2 0c

Sheep's trotters .. f0 20c Prohibited. f2 0c

EAST LOTHIAN AGRICULTURAL SOCIETY—REPORTS.

PREMIUM FOR EXPERIMENTAL FEEDING.

No. 1.

East Fortune, March 21, 1836.

SIR,—In compliance with the request contained in your note of the 16th instant, I send you the following report of a comparative experiment in feeding cattle, conducted by me in competition for the premium offered by the East Lothian Agricultural Society.

The committee of management having approved of the scheme submitted to them, as required by the conditions contained in their advertisement, the cattle experimented upon, were, on the 17th October last, chosen from my winter fatting stock, and divided into four lots, each lot consisting of seven Oxen, by the sub-committee appointed to superintend experiments of this kind.

The cattle are of the common breed of the counties of Durham and Northumberland, are at present four years old, and have been fed in the following manner:—

Lot 1 has been fed on turnips alone, getting as many as the cattle could consume.

Lot 2 has had potatoes at the rate of about 34 lbs per day for each Ox, besides as many turnips as they could eat.

Lot 3 has had, along with an unlimited quantity of turnips, an allowance to each Ox, of 5 lbs linseed cake per day; and

Lot 4 has been fed on draff and dreg from Linton Grain Distillery, and latterly a mixture of peas and oats coarsely ground, has been given with the draff.

Regarding the quality of the different kinds of food, I may state,—That the White Globe and Dale's Hybrid turnips, were grown on dry gravelly soil of good quality, the manure a mixture of bones and rape cakes; they were sown rather late, were of small size, and very firm and juicy. The Swedish turnips grew on a more clayey soil, of very good quality, were manured with farm-yard dung and bones; and when lifted, the smaller roots were kept out.

The potatoes given to lot 2 were of the variety called Dons, and of a quality that would be considered good in any season. I mention this because although cattle, when they have a choice, prefer the larger and coarser varieties, these contain a much less proportion of nutritive matter than the table sorts.

The linseed cake employed, was of the best Dutch, and probably not much inferior to English made cake. For the most profitable employment of this expensive food, the present experiment has been continued too long; for even admitting that the cattle fed on it have increased in weight of beef considerably more during the last half of the time, than they did during the first, yet as their beef, at the end of the first three months, would have brought about the highest price in the market, the food since consumed by them, it appears to me, might have been more profitably used in feeding another such lot; for in this way twice the number of lean carcasses would have been converted into valuable beef.

No. 2.

Lawhead, March 24, 1836.

DEAR SIR,—After receiving your letter of the 18th October, I was induced to commence the experiment which I had previously signified my wish to conduct, in the hope of its leading to an important result. The object was to ascertain whether beans and potatoes, raised upon certain kinds of soil, might not be made available in fattening cattle, where turnips could not be raised without doing great injury to the land.

In the presence, and with the concurrence of a sub-committee of the society, the produce of 14 imperial acres of land was set apart for fattening 20 young cattle of my own rearing, and which that committee also gave me their assistance in dividing into four lots of five in each, of as nearly equal value as possible, each lot having the exact produce of 3½ imperial acres of land as under.

Lor No. 1.—For this lot of five cattle, 3½ imperial acres of Swedish turnip, weighing 14 tons, 3 cwts per acre, say 49½ tons; whereof 12 cwts. were unconsumed at the period of removal, being at the rate of 133 lbs. per day to each beast, for 166 days.

Lor No. 2.—This lot had only one half of the turnips which were allowed to No. 1, with the addition of the produce of 1¼ acres of Yam potatoes, weighing 12 tons per acre, so that the allowance for the five cattle was 24¼ tons of Swedish turnips, and 21 tons of potatoes; 5 tons of the potatoes were unconsumed at removal, which leaves 67 lbs. of turnips, and 40lbs. of potatoes, as the average consumption of each beast per day.

Lor No. 3.—This lot had also 24¼ tons of Swedish turnips, and the produce of 1¼ acres of peas and beans, amounting to 3¾ quarters, weighing 64lbs. per bushel; whereof 6 cwts. of turnips, and 7 bushels of beans, stored for this lot, were not used at the period of removal, making the average consumption 60lbs. of turnips, and 4½lbs. of bean meal, per day to each beast.

Lor No. 4.—This lot was allowed the produce of 1¼ acres of Yam potatoes, being 21 tons; and also had the produce of 1¼ acres of peas and beans, being 3¾ quarters, weighing 64lbs per bushel; whereof 5 tons of the potatoes were unconsumed, and 7 bushels of the beans, making the average consumption 40lbs of potatoes, and 4½ lbs of bean meal, to each beast per day. This lot got about ten Scotch pints of water daily, and straw in common with the three other lots, which got no water.

I conclude by mentioning, that the land which produced the different descriptions of food, was of equal quality and got the same quantity of manure, only that the turnips had, in addition, a small allowance of compost in the drills; this experiment warrants the impression, that our stiffer soils may in future vie with the turnip land in the butcher market. Below is a note of the aggregate girths of each lot.

ANDREW HOWDEN.

	Lor 1.	Lor 2.	Lor 3.	Lor 4.
	ft. in.	ft. in.	ft. in.	ft. in.
On 10th Nov.,	27 11½	28 8	28 3	27 11½
On 24th March,	30 1½	31 1½	31 4	31 0
Improvement,	2 2	2 5½	3 1	3 0½

The following is the valuation put upon the several

lots when inspected by the Judges, on the 1st of April, viz:—

Lot 1.—Valued at	£12 4s each.
2.—Ditto	£13 12s ditto
3.—Ditto	£14 16s ditto
4.—Ditto	£14 0s ditto.

Fleshers' Note of weight of Beef, Tallow, and Hides, of each Lot:—

	BEEF. TALLOW. HIDES.		
	lbs.	lbs.	lbs.
Lot 1.—Fed on Turnips ..	3005	314	315
2.—Fed on Turnips and Potatoes..	3213	437	318
3.—Fed on Turnips and Bean Meal	3353	366	333
4.—Fed on Potatoes and Bean Meal	3194	355	334
	BEEF.	TALLOW.	HIDES.
	lbs.	lbs.	lbs.
Lot 2 was superior to lot 1	208	123	3
3 ditto ditto	348	52	18
4 ditto ditto	189	41	19
	745	216	40

Table showing the difference arising from Feeding on Turnips alone, and Mixed Food:—

Lot.	Original Value of whole Lot.	Valuation of Judges.	Difference.	Consumption.	Value of Turnips Consumed.	Value of other Food.	Total.
1	£35	£61	£26	3½ ac. turnips, at 7l, 8s 7d per acre,....	£26	..	26
2	35	68	33	1¼ ac. turnips, at do.....	13	..	26
				1½ ac. potatoes, at 15l. per acre,.....	..	£20	33
3	35	74	39	1½ ac. turnips,..	13	..	33
				1½ acres beans, yielding, per report, 59 bus. the profit being 26l, or 8s 9½d per bus..	..	26	39
4	35	70	35	Potatoes as p. No. 2,.....	..	20	35
				1½ acres beans yielding 59 bus. the profit on the whole being 15l, is 5s 1d per lb.....	..	15	35
	140	273	133		52	81	£133

7 acres turnips, and 6 acres potatoes and beans.

On calculating the value according to the girths at the commencement of the experiment, the difference between the highest and lowest, was found not to exceed 3s 6d on each beast, it was therefore considered unnecessary to take the difference into consideration, in stating the original valuations.

IRRIGATION AND DRAINING.

In the Black Forest and in Switzerland, every mountain stream is conducted in a main run or feeder, along the upper part of a sloping field, or along the middle and the edges of a level one raised on the summits of low ridges, to give a fall; while from these main streams innumerable smaller streams branch off in the most convenient directions, to carry the water in every direction over the surface, small sluices or stops being placed at proper distances, to *economise the water*, and regulate its equal distribution. When passing through these countries in *Autumn*, they will be found cutting their hay, in many instances their *second* crop; and as soon as it is off the ground the whole of the fresh mown field will be laid under water, rarely so deep as to appear above the short grass, and *no where* allowed to stagnate, but moving slowly to the lower parts of the field, where it is collected into a main stream, in the same way as it had been distributed. It is indeed an indispensable part of this system, that the fields subjected to it *may be as effectually and speedily laid dry* as they may be laid under water.

Irrigation, though apparently opposite in means is similar in effect to draining—both render the fertilisation of land easy. The universal effect of *flowing* water over the surface of the ground is the promotion of healthy vegetation. Whether it is effected by the natural inundation of the Ganges and the Nile, or the artificial inundation of the plains of Lombardy, by the Tagliamento and Po, the promotion of vegetation is striking. Irrigation is an attempt of art to imitate the beneficence of nature and to extend that beneficence over a larger portion of the globe than nature seems disposed to do. Flowing water, in whatever state, refreshes, invigorates, and renders natural herbage finer—stagnant water destroys it, and leaves a rank and unwholesome vegetation in its stead.

The crops on water meadows are produced at the least expense, and with the greatest certainty of an early return. On watery meadows that are well managed, the grass is the earliest and of a superior quality, well adapted to the feeding of ewes and lambs; and the hay, when properly made is equal to the best clover-hay, and superior to any other kind for milch cows. When the herbage of dry porous soils is impoverished for the want of moisture, and the rich spongy land, by its remaining too long stagnant, both of these evils are remedied. Another great advantage attending irrigation, is the extra supply of manure it yields to the arable part of a farm, especially when the lands are lying (which is often the case) at so great distance that it is almost impossible to procure it for money. The success of improving land by irrigation, perfectly warrants an experiment in the most unfavourable situation. The result will invariably triumph over every prejudice.

There is, perhaps, no circumstance which so obtrusively forces itself on the attention of the agriculturist as he travels along the highways of the Principality as the neglect of draining. In arable as well as in pastoral districts among mountains as well as on the plains, this neglect is very striking. Perhaps it would be too strong to assert that there is not a thoroughly drained *farm* in all Wales, but there is no hazard in the assertion that a thoroughly drained *parish* does not exist in it. Startling as this intelligence must be to the agriculturist, it is no news to many farmers in the best cultivated districts. Full well they know that

much improvement has yet to be effected by draining, and that in its train alone follows every other improvement. Though silent and secret in its operations, like wholesome medicine, draining has renovated the constitution of the soil, and suffused a beautiful bloom over the face of the country. Were draining extended to the utmost pitch of ability, it is impossible to anticipate the exact degree of favourable change which the climate would experience; although the obvious connexion existing between the climate and the soil, would warrant the anticipation of an important change. Look into every one of the countries of Wales, and see the many thousands of acres which require draining on every hand, and which are lying of little value for want of it. The cost would no doubt be considerable, but if it were executed in a substantial manner, we maintain that the increase to the first crop would repay the whole expense to the farmer, be that what it may. But the tenant ought not, in justice, to bear the expense of such a fundamental improvement of the land. The landlord should at least share alike with him, and lessen the burthen to each. The depth and the distance between the drains depend entirely on the imperviousness of the subsoil. But it is easy to fix the *minimum* depth. No kind of drain, on any pretext, ought to have a smaller depth of stones than 18 inches, nor a smaller depth of earth above them than one foot; so that no drain should be less than 36 inches in depth, nor need the *maximum* of shallow drains exceed 3 feet. The width should allow a man to work freely in them. The distance between the drains has been fixed at the breadth of a ridge, that is, in every furrow. Small round stones, or broken stones, should in every case be preferred to tiles, and they should be carefully placed by the hand. It is only where stone can be obtained, but at greater labour and expense, that tiles should be used. We have seen a night's frost break the whole tiles laid down for a drain. Luckily they were broken before they were used; but why are such spongy tiles sold to deceive the public? Were the soil thus fertilised, the produce of the Principality, whether in corn, straw, green-crops, or pasturage, would be increased manifold. Wheat and livestock would then be so abundant, and of course cheap, that every labourer would be enabled to consume wheaten-bread and butcher-meat; and constant employment be provided for agricultural labourers for many years. One sheep additional kept, or one quarter of corn more raised on an acre, would add millions a year to the wealth of the country.

It is truly mortifying to all good rational feeling, to witness the deplorable state of our farm labourers' cottages and gardens, with their appendages of filth and dirt; more conspicuously so, when compared with those in England. Now, should this be? They have far less appearance of tidiness and comfort in and about their dwellings than their English brethren. Blame attaches somewhere, but not with these otherwise deserving people, for they have not had the advantage of seeing improvements elsewhere. They surely ought then to be stimulated by patronage, precept, and example at home, and by those who have the means.

AN AGRICULTURIST.

Llanassa.

PRIZES FOR DRAINING.—(From a *Correspondent*.)—On Friday last the three prizes advertised to be given by Lord St. John, of Melchburn, Beds, to the best drainers with turf were competed for in a grass field on his Lordship's farm in the parish of

Riseley, Beds: there were 49 competitors from the counties of Huntingdonshire, Bedfordshire, Buckinghamshire, and Northamptonshire, and some excellent workmanship was exhibited: the length to be drained by each was 33 yards, the time allowed 4½ hours. The first prize of 6*l* was awarded to William Denton, of Hartwell, Northamptonshire; the second of 4*l* to David Denton, of Hanslop, Bucks; and the third of 2*l* to Stephen Dickens, of Riseley, Beds; and many others were very highly commended by the Judges, namely, Mr. Anderson, of Oakley, Mr. Hine, of Knotting, and Mr. Rogers, of Melchburn, who afterwards adjourned to his Lordship's mansion, where with several other gentlemen they were hospitably entertained. The proceedings of the day excited great interest among the labouring community of the surrounding parishes, upwards of 1,000 of whom were in attendance during the day attentively examining the progress of the work, and the principles on which this improved system of draining is founded.—W.A.

ISLINGTON MARKET & SMITHFIELD.

(FROM A PAMPHLET RECENTLY PUBLISHED.)

It would be almost a work of supererogation to dilate upon the inconveniences a market, situated in a very circumscribed space in the centre of the metropolis, for the sale of upwards of a million and a half of animals per annum, must in the very nature of things occasion. If we had sought for the means of fixing a plague-spot upon a civilized people, we could not have succeeded so well; if we had looked.

“For a charm of powerful trouble,
Like a hell-broth boil and bubble,”

we could not have compounded a caldron more full of mischievous ingredients than Smithfield Cattle Market; it is the anomaly of all civilized anomalies, and our proud City must purge itself of the foul reproach.”

“Smithfield Market was established above 700 years ago, then called Smoolh-field, in which horse-races, tournaments, and the execution of criminals took place at the Elm Trees (afterwards at Tyburn). It was then *without the walls of the City*. The legalized area of the market is at this period under four acres and a half; out of which cattle cannot be sold without subjecting all parties to a prosecution,

“The present market will not contain more than 1,500 bullocks, and about 15,000 sheep; there is then room wanted for calves and pigs. Very commonly, however, space for 3,000 bullocks is wanted, frequently for 3,500, and at some seasons 4 or 5,000, besides several hundred calves, and from 20,000 to 35,000 sheep. The number at all times brought into the market, while the remainder are waiting in the adjacent streets for room, are very inconveniently packed; yes, packed—no other term is applicable, unless we say compressed; leaving few or no regular ways by which the drovers may draw out the sheep when sold, to make room for others yet to be brought in.

“The sheep for want of room, frequently lie upon each other, steaming like a new dung heap when wetted by the rain, while the drovers are clambering over their backs, breaking legs and putting out eyes, as they deal out recklessly their blows on the heads of the sheep over which the others are to pass.

“In Smithfield there are strong posts and rails, to which as many oxen are tied up as the space will allow, that is to say, about 1,200 out of the average of 3,000 of the number brought for sale on the Monday; the others are kept for view in off-droves, the manner of accomplishing which will be explained when I come to speak more particularly of cruel treatment. As regards merely the inconvenience of the market, it is in evidence, before a Committee of Parliament, that much of the

butcher's time, when in the market, is taken up in providing for his own safety. But what is this to the annoyances such a number of cattle, compressed into a space comparatively so small, entails on the inhabitants of the immediate neighbourhood, and all the ramifying avenues for a mile or two distant? On Sunday night, at the time when persons are returning to their homes from different places of worship, through numerous streets, the scene of uproar and confusion commences; the driving from 20,000 to 30,000 head of cattle through crowded streets—the drovers, cattle, and dogs all intermixed, the latter barking, the former uttering horrid oaths and impious execrations, re-echoing from one extremity of the market and immediate streets to the other—forms a scene no language can adequately describe; nor can it be conceived, except by those who repair to the spot for the purpose of forming a true judgement.”

BONES AS A MANURE, AND BONE DUST SOWING MANURES.—The following are extracts from a communication just received by the Messrs. Drummond of the Agricultural Museum, our townsmen, from an extensive landed proprietor, and zealous Agriculturists in Aberdeenshire, in reply to inquiries made by them respecting the important subject to which the extracts refer, and we have great pleasure in giving them a place.—*Stirling Journal*.—“As to the manner of putting in bones by any machine, it is humbug, and nothing but humbug. Bones were first used as a manure in Yorkshire, particularly around Doncaster; and one or two mills were quickly set to work for the purpose of crushing them at Hull and elsewhere; as soon as I heard of it, the great saving of carriage to me, who was at that time driving hundreds of tons of dung from Aberdeen, struck me. I tried it, and from that time till this day, have derived the benefit which is so well known; I am talking of twenty years ago; there was not then a bone mill in Scotland, or a single bone made use of in agriculture from the Tweed to John O'Groats—nay, bones were at that time exported from Aberdeen to Newcastle in small quantities. I used to buy them at 25s to 30s a ton, in the rough state, and broke them at home by manual labour, and a rude plan I fell upon, with a heavy stone, at the cost of 12s to 15s a ton: at this early period, I was so well aware of the value of them as a substitute for manure to the turnip crop, that I drove them from gentlemen's dog kennels at twenty miles distance. In fact, I was the laughing stock of my neighbours, who were perfectly incredulous on the virtue they contained; and some of them even told me to my face, that I might as well put the new-fashioned road metal (Mr. M'Adam having just then come into vogue) into my drills as that stuff; and it was not until I had repeatedly measured off separate acres, and manured one with farm-yard dung, and the other with bones, alongside of each other, and desired them to look and say which was the best, that I could get people to believe they would produce a crop, far less a good crop. I have mentioned these facts to show you I am no tyro in bone manure; and, in short, from the time it became known in Yorkshire, I have tried it in all manner of ways, used and seen used, all sorts of machines; by far the best way is to open the drills in the usual way, and give the drills “a traik” (lengthways of course) with the harrows, and then a man sows the bones at the rate of 25 bushels per Scotch acre, or 20 bushels per imperial acre, into the half obliterated drill; then cover, as if farm-yard dung had been used, and instantly sow the turnip seed. There is no cheaper or better plan. If bones are very difficult to be got, or high priced, dry house or coal ashes, mixed and turned, can be added to the bones, and so make 12 to 15 bushels per Scotch acre, or 9 to 12 bushels per imperial acre, produce a good crop. More than 25 bushels per Scotch acre is of no use. You are to understand that the bones are to be sown out of a sowing sheet, up the drill, just as if a gardener were sowing a drill of spinage. No machine can perform

the work so well or so quickly, because if you set any machine wide enough to insure no blanks, and enable you to drive on with celerity and no misgivings of mind, then you are wasting the bones; if you set the machine close, now and then the bones will *hitch* across the mouth, in the very best constructed machine, and then, of course, there is a long blank till the mistake is found out. As to dibbling, it is far from a good plan in any shape. I have tried it several times, but never shall again. My space will not allow me to detail all the reasons against it; one is, when the ground is dry, the earth runs into the hole, and with machine or hand, it is rare to see them properly deposited."

MANGEL WURZEL.

BY MARTIN DOYLE.

Mangel Wurzel is a kind of *red beet*, not liable to be injured by disease or insects, and proof against the change of seasons. It requires loamy loose soil, and abundance of short and rich manure. It gives no unpleasant taste to milk or butter, (an objection which may be urged against turriups and most kinds of cabbage)—quite the reverse. Pigs, as well as milch cows, are fond both of its leaves and roots. Sixteen or twenty perches under it, will support a cow, allowing her sixty pounds weight per day, for the five winter months; and half a pound of seed, which will cost about 1s 6d, will sow these twenty perches. From the 20th to the end of April, is the best time for sowing the seed; and those of you who are not likely to have your ground at that time ready, should sow in a seedling bed, in order to transplant when the ground is prepared; and in this case you should not put out the plants until they are about an inch in diameter, else they will not arrive at full size. The best way, however, is to sow the seed where it is to remain, and the process is as follows:—

Prepare your land as if for drilling potatoes—open the drills eighteen inches or two feet distant, the deeper the better, unless there is yellow clay at the bottom—fill them with short manure—cover them with four or five inches of earth—roll them lengthways, and then on the smooth and level top make holes with a dibbling stick, two inches in depth and about twelve inches apart, and into every hole drop two seeds, which are to be covered as the work proceeds. When the plants are about two inches high, you are to draw out from each hole the extra plant or plants, leaving of course the strongest and healthiest plant behind. Keep them clear from weeds, but do not earth them. If any of the plants appear to run to seed, pull them out, and transplant into their room, after stirring up the earth, and applying a little fresh manure, (and to the want of attention to this point the comparative failure of transplanted crops is to be attributed) other plants of mangel wurzel, rape, cabbages, or Swedish turnips, which should always be in a reserved seedling bed, in case of failure in any crop. In September pull the leaves—[cutting them close to the crown will cause the root to rot if left in the field during the winter]—and give them to your cows, sheep, and pigs. You will also find that they make a good substitute for greens or spinach.

The following is Mr. Meadow's calculation of produce:—

Drills 2 feet distant,	}	220 plants per perch—
Plants 2 feet distant,		23,280 per acre.
Drills 2 feet distant,	}	147 plants per perch—
Plants 18 inches distant,		23,580 per acre.
Drills 18 inches distant,	}	294 plants per perch—
Plants 1 foot distant,		47,040 per acre.
Drills 18 inches distant,	}	252 plants per perch—
Plants 11 inches distant,		40,320 per acre.
Drills 18 inches distant,	}	196 plants per perch—
Plants 18 inches distant,		31,360 per acre.

You may safely calculate on 30,000 plants per acre.

If you average the plants at 31lbs. each, which is much too low, you will have 90,000lbs. or about 40 tons, not a watery substance like turnips, but a firm nutritious food.

THE TURNIP FLY.

FOR THE SHREWSBURY CHRONICLE.

Few things have more puzzled and put the invention of the Agrtulturist on the rack, than the endeavour to find out a *certain* method of destroying that destructive insect, commonly called the Turnip Fly.

In the gardens of Sir W. W. Wynn, Bart. at Llangedwin, which I have now cultivated for thirty-one years, the Turnip Fly has been remarkably destructive, not only to the whole of the *Brassica*, or Cabbage, tribe, but to the Radishes also. I tried every expedient that appeared in the newspapers, and every other that I could hear of, but in vain, till about twenty-five years since, I discovered that a proper mixture of lime and soot have the desired effect.

I now lay it down for the benefit of Farmers and Gardeners in general, which I am certain, from the very long experience I have had, if given a fair trial, will never fail. One bushel of soot and two of quick lime, well incorporated, are nearly sufficient for an acre, if the turnips are sown in the usual way, in drills. Let it be sown with the hand out a hopper, as soon as the seed leaf appears. This mixture is the most innocent that can be in regard to the plants.

I am, Sir, yours, &c.

JOHN HAYNES.

Llangedwin Gardens, April 10th, 1837.

THE LESSEES OF ECCLESIASTICAL LANDS AND CHURCH RATES.—The Lessees of Church lands, though they have no legal rights beyond what their leases give, have yet a prescriptive interest and preference in the renewal of those leases; and it is proposed, that the Lessees shall have power to purchase the fee-simple of the lands, reserving a corn-rent, or to take a lease for 31 years, at 5 per cent below the rack-rent.

Thus the plan proceeds upon the principle of preserving all existing interests, so far as they are compatible with the interests of the public.

This financial operation hinges upon the assumption that men will be ready to give a larger sum for the use of land under the tenure to be created by the Act of Parliament, than under the existing system of managing Church lands. And it is clear not only that men will be willing to do this, but also that they will be able, without which their willingness would not be worth much.

Reason and experience alike show, that under a system of low rents and successive fines, land is improvidently managed; the receipts of the landlord are much below the natural rent, while the produce obtained by the tenant is not the utmost which the land is capable of yielding, it being nobody's direct interest to lay out capital in improvements. The contingencies which attach to land thus circumstanced are all against its most profitable use, and the tenant takes care to be on the safe side.

THE NORTHUMBERLAND DROVERS IN 1792.—The inhabitants of this country speak an odd dialect of the Saxon, approaching nearly that of Chaucer, and have retained some customs peculiar to themselves. They are the descendants of the ancient Danes, chased into the fastnesses of Northumberland by the severity of William the Conqueror. Their ignorance is surprising to a Scotelaman. It is common for the traders in cattle, which business is carried on to a great extent, to carry all letters received in course of trade to the parish church, where the clerk reads them aloud after service, and answers them according to circumstances.—*Life of Sir Walter Scott.*

ON THE PRINCIPLES AND PRACTICES OF SHOEING HORSES.

(From the Veterinarian.)

"HORSES SHOD ON THE MOST APPROVED PRINCIPLES."—

"HORSES SHOD ON THE EXPANSION PRINCIPLE."

I have noticed this over many forges in and about the metropolis, and allude to them now, not with the intention of inquiring into the *principles* of either, for the very plain reason, that I have never yet known of horses having been shod upon principle, *i. e.* agreeable to the laws of nature, and admitting of no deviation. The perfection of this art, like others, would of necessity be that which came nearest to nature, or, strictly speaking, it would not be art.

I long ago discovered, for myself at least, the sophism that has misled the veterinary profession upon the subject of shoeing, to be the *making principles* out of their practice; and if we only go back to the period of the foundation of the college, we have had systems of shoeing enough, every one knows, but not one upon *principle*; and, we believe, no one will attempt to deny the definition of a principle; the result has been, that these systems, or, more properly speaking, modifications, have never come into general use. The ordinary method of shoeing is still practised throughout the country: the only difference I have observed, is more or less superiority of workmanship, for which difference in price is charged. It is not, therefore, altogether true, that the low price paid for shoeing is the cause that these modifications have not come into use. Do the smiths of Newmarket never get 20*l* for plating a winner? and is this not sufficient stimulus to produce something practically useful, to save the feet and legs of racers over the hard heath in summer and frost from the effects of percussion?

Do not sportsmen pay high prices for shoeing hunters? Are coach-proprietors and others so blind to their own interests, that, if any of these modifications had been as advantageous as their proposers thought, they would not have used them also? The style in which some of them do business is a sufficient answer that *price* would not be studied by them. I will not say it is a disgrace to the veterinary profession; for many of its members have shown an ardent desire, and this, too, at some sacrifice of time and money, to bring what they individually thought advantageous into general use: all have, however, more or less failed. I will endeavour to explain the causes of failure upon the ground of *principle*, or, rather the want of *principle*, upon which the whole profession, with few exceptions, seem to have been influenced. Most of them have made principles matter of inference from their practice, few from direct inquiry; and these have always been bewildered by practice also: having no principle to go upon, they could never fairly emancipate themselves; they were slaves of the forge—with ideas tied down by so much per set of shoes, leather soles, stopping and all.

Mr. Moorcroft was well aware of the cause of the degradation of this art, and, with the intention of striking at the root of the evil, I had constructed by machinery his modification, with which I have nothing to do at present; but had he been able to make shoes, of any form, at fourpence each, instead of eightpence, he would have succeeded: but, confining himself to modification, he failed, and, I once heard him say, at the sacrifice of a greater sum than would now, in the present state of machinery, fully accomplish the object. Who will attempt any thing

in the present state of the *trade*?—art it cannot be called.

The next attempt was accidental, originating in Mr. Goodwin having pattern shoes cast by Mr. Dudley: but he would not listen to the profession which applied to him for the shoes in ordinary use, and *fullered*. I thought at the time how it would end. Mr. Goodwin's modifications began, and the panic of 1825-26 put an end to the use of cast shoes. I was sorry for Mr. Dudley, and wished he had not committed the same error as Mr. Moorcroft and others; for I know, from practical experience, that the shoes might have been in use still. With the forms of the ordinary shoes, the patent is nearly out; and, if Mr. Dudley does not get a renewal, by application to parliament, some one else will attempt its introduction again; as a *discovery*, probably,—we have so many of them now-a-days. The shoes must be those in ordinary use; for I think it improbable to reconcile the conflicting opinions that exist on this subject in one shoe. I will attempt to explain this.

The common shoes have a flat surface next the ground; that next the hoof more or less concave, except at the heels, where they are flat, varying in substance, and oftener thicker at the heel than at the toe. The web is broader, according as the shoe is larger in size, and fullered in heavy shoes, sometimes counter-sunk nail holes, and nailed to the crust while the hoof is raised from the ground. There is no space between the hoof and the shoe, and, to prevent the percussion which of necessity occurs from the weight of the horse upon the hoof when the shoe thus applied bears on the ground, the sole is pared, so as to allow of its descent. This acts as a spring, and the percussion is prevented in some degree. But percussion still happens opposite the heels and quarters, which cannot overcome the resistance opposed to the action of the hoof by the close application of the shoe. Now this is, we suppose, what is meant by "shoeing on the most approved principles," *i. e.* the practice approved by those who follow the *trade* of shoeing horses throughout the country. It was therefore inferred, that the principles of shoeing were, that the crust only should bear on the shoe.

Mr. Moorcroft recommended the sole to have a bearing on the shoe also, as it was found the sole could bear on the shoe without injury. This upset the *inferred principles*; but an endeavour was made to reconcile this inconsistency, by explaining that the reason was, that the sole at the toe was not opposed to sensible parts; that the principles were the same, notwithstanding the exception; and practice showing that no bearing could be allowed of the sole on the shoe opposite the quarters and heels (the corn place, as it is called.) Now it so happens, that the crust at the heels is as much opposite sensible parts as the sole at those parts, and, for the same reason, should not bear on the shoe: it cuts both ways. The frog, too, is opposite sensible parts, and yet it was especially recommended for pressure by its bearing on the bar-shoe, where the aforementioned sensible parts, opposite sole and heels, could have no bearing and pressure.

I was strangely puzzled to understand such logic as was attempted by these inferences from practice, and resolved, on the first opportunity, to institute direct inquiry into the matter. What was the result?—that the sole, frog, bars, crust, whether or not opposed to sensible parts, were bearing on the ground without injury being produced in horses without shoes, just in proportion to the *substance*, the unrestrained action of the hoof preventing all percussion; and that the same held good where horses

were shod in those countries where great substance of hoof is left, and little substance of shoe is required, percussion and injury to sensible parts not happening there also. It is quite a mistaken notion to suppose that Englishmen do not go the pace in any other country but England; yet, although exposed to all that has been considered as the predisposing causes in greater degree, and the proximate cause in the rate and continuance of progression being equally as much, lameness does not often happen. In England, in the metropolis, and large towns, where higher prices are paid for shoeing, where the workmen are most skilful, where horses are what is called neater shod, where most substance of hoof is removed, agreeable to the supposed principles of shoeing, there are more lame horses than in the country, where the workmanship is rougher. I would rather have our horse shod in the ordinary way by the latter than the former, to go over the stones of the metropolis, where percussio is most likely to happen.

"The expansion principle" is a strange misnomer: it seems to imply that the hoof expanded; that hard and soft parts within it expanded also, which the anatomy and physiology of the foot deny. The superincumbent weight of the animal, not supported by the springs within the hoof, must ultimately fall perpendicularly on the last spring, that formed by the bases of the hoof on the sole, bars, crust, and frog. We did not copy this putting announcement from any particular forge; but in every part of the country, and the metropolis too, we have this "shoeing on improved," and on "new," and "the newest," and "the most approved," and "patent," and "Professor Coleman's," and "college," and "veterinarian," and "expansion principles;" and, added to this, and in perfect keeping, "Veterinary surgeon, smiths' work in general, and bell-hanging in all its branches;" while Mr. Coleman's patent, and other shoes *gilt*, occupy the upper corners of the board, and a frying-pan and a gridiron ornament the lower ones, and a goodly row of pots, pans, and kettles, fill the window. Out upon it! Are we come to this? The man who has a sign-board just over Bow Bridge, "all kinds of beasts gilt," is more a veterinary surgeon, and to him we recommend the public.

"Principles most approved" and "Expansion" appear to be distinct: there is a division as to the mode of receiving the weight from the last spring to the shoe, and ultimately conveying it from the shoe to the ground: the prevailing party believing that the structure and physiology of the foot and hoof consist of springs; that there is a depression of the sole, bars, crust, and frog, when the hoof is on the ground, and a recession of these parts when the foot is in the air; the substance of the sole is sacrificed to effect this depression of the sole, but no space is left between the heels and shoe to admit of the depression of the crust at the heels, which are opposite to sensible parts, as much as any portion of the sole. Both in light and heavy horses the consequence is percussion and alteration of form, often incurable lameness.

The inferred principle has been carried on more by the college and its students than by others, the modifications of Mr. Coleman having all this tendency, extrinsic to the form of the shoe. We were instructed to pare the soles of light horses, in some cases, as thin as paper, till they were pliable under the thumb, and to be particular in making the sole concave opposite the seat of corn; the effect of which was, to give this depression of the sole; but in heavy horses it increased the predisposing cause of corns, by destroying the substance of the sole; and

the crust at the heels was sooner destroyed by concussion against the shoe, which then bore on the sole also. The bar-shoe was then had recourse to, and, to carry out the principles, it was said, that, as the public required one shoe to do for all horses, the bar-shoe was the only one applicable; but having been used only in extraordinary circumstances, the public will not use it as an ordinary shoe. Mr. Powis used it without the bar; but the Levanian shoe, as we believe he called it, though having a space between it and the heels at the time of application, so as to admit of the action of the hoof; yet, after a few days, by the closer approximation of the shoe to the hoof, that space became less and less, and, before it was necessary to remove it, the hoof bore on it as in the ordinary shoe.

But the bar-shoe, or used without the bar, or the frog bar-shoe, clearly and distinctly upsets the *inferred principle*, that crust should bear on the shoe, and sole should not. Let us therefore hear no more of such nonsense from any one professing to have the least practical knowledge of shoeing horses. There is no principle that can be uniformly practised without injury. The predisposing and exciting causes of injury of the foot are not acting upon all horses.

I have got rid of all technicalities, to enable us to come to some conclusion as to what really are the principles of shoeing horses. I have shewn clearly enough, from general practice, that the crust only is allowed, or part of the sole also, at the toe to bear on the shoe, till it can bear no longer at the heels: the weight is then thrown on the frog, if in a sound state to bear on the shoe, until you can get the heels in condition to bear on the shoe again. If we are to infer principles from all this, what is the result?—That depression of the sole, bars, crust at the heels, and frog should be allowed in the sound state of hoof that is used for its relief when diseased. I am aware that the subject is full of difficulty; it all hinges upon practical utility, *i. e.* whether the ordinary shoes can be superseded by those upon principle at the same price. Independently of this, it is easily accomplished, as I shall hereafter show, but not upon the theory of *expansion*, which is not the principle of action in the hoof, but that of the spring.

"It would be a very easy matter to give instances of the advantage derived from springs, by calculating assumed cases; but they seem to be quite unnecessary, since the general principle of changing percussion into increase of pressure, must, by its very announcement, give evidence of its immense importance."—*D. Gilbert, Esq. M.P. on the Construction of Mail Coaches.*

"So great is the advantage of springs, that they almost annihilate the resistance which that part of the load which rests on them would encounter without them, upon stony roads or rough pavement. From the whole of these experiments, it appears that the advantage of springs increases with the increased velocity of carriages."—*R. L. Edgeworth, Esq. F. R. S. M. R. I. A. Essay on the Construction of Roads and Carriages.* 2d edit. p. 118.

Springs.—They convert all percussion into mere increase of pressure; that is, the collision of two hard bodies is changed, by the interposition of one that is elastic, into a mere accession of weight. Thus the carriage is preserved from injury, and the materials of the road are not broken; and in surmounting obstacles, instead of the whole carriage with its load being lifted over them, the springs allow the wheels to rise, while the weights suspended upon them are scarcely moved from their horizontal level, so that the whole of the weight could be supported on the

springs, and all the other parts supposed devoid of inertia, while the springs themselves are very long and extremely flexible. This consequence would clearly follow, however much it may wear the appearance of a paradox, that such a carriage may be drawn over a road abounding in small obstacles, without agitation, and without any material addition being made to the moving power or draught."—*Gilbert*.

"A carriage without springs, moving over a rough road, has to be lifted over obstacles, or out of depressions, and all the power expended in overcoming inertia is pure loss; but the force exerted in elevating the weight is in a great measure by the preceding or subsequent descent. Now, under the supposition in my paragraph, *inertia* would be destroyed; and it already is so by springs now at present used, and by the smooth roads."—*Gilbert*.

It would be useless to multiply quotations on the principle of springs. The principle of springs is acknowledged and taught in our veterinary school as the principle of action of the hoof and part within it. The seceders go upon a supposed expansion horizontally: they have failed, as others before them, in not being able to bring the modification of expansion into general use. Springs, too, have failed; and for the same reason,—their application to prevent contraction. For springs to be brought into general use instead of the ordinary shoes, they must have the ordinary shoes for their basis. It must produce as much profit to the *trade*; not forgetting that intellect in its march has, as yet, forgotten to go the rounds of the *veterinary forges*, the new name for the blacksmith's shop, in *contradistinction*, I suppose, to that of the whitesmith.

(To be continued.)

EVIDENCE BEFORE THE COMMONS' AGRICULTURAL COMMITTEE OF 1836.

It is abundantly manifest that the generality of farmers cannot spare the time even, if they possessed the inclination, to wade through the three large folio volumes of evidence given before the Commons' Parliamentary Committee upon Agricultural Distress, which sat last Session. To provide for this difficulty, so far as it is practicable, a volume has just been published, by Ridgeway, entitled "State and Prospects of British Agriculture, being a Compendium of the Evidence given before the Committee of the House of Commons appointed to inquire into Agricultural Distress, with prefatory observations" by a Member of Parliament. It does not appear whether the "Member of Parliament" was a Member of the Agricultural Committee. Be that as it may the agriculturists are much indebted to him for compressing the pith and marrow of three folio volumes into one octavo volume at the small cost of two shillings and sixpence. The prefatory observations are temperate and sound, and the selections from the evidence made with good judgement. The "currency men" will disapprove of his course as he does of theirs. In adverting to that subject, he says—

"It is with respect to the currency that I have exercised a discretion, which I can hardly expect all

parties will comment. I am quite prepared, however, to justify the step I have adopted. A great deal of the time of the Committee was taken up in examining farmers on the subject of the currency, and frequently in constraining them to express an opinion respecting it when they had frankly declared it was a matter they did not understand. I have made no extracts from such evidence. The subject is a difficult one, and I do not consider farmers very great authority upon it. I have, however, gone further. I have passed over all that Messrs. Spooner, Muntz, and Burgess delivered respecting the currency. Those gentlemen take so romantic a view of the matter, that on examining their statements one cannot help deploring that eccentricity of mind to which great talent and even genius are proverbially allied. The hope of tampering with the currency could not, recently, have been very high among the more sober of those who approve of such a policy. Its allies have found but a feeble band in the House of Commons, comprising few men of great abilities, and not one of much political importance. Out of doors the proposition has been very little more successful. The intelligence and the property of the country equally repudiate it. Many farmers, indeed, have declared in its favour, not because they pretend to understand the question, but because they have been constantly assured that it would make them rich and prosperous by persons who have known better, and whose sincerity, when they are sincere, is so like dishonesty that it deserves to be confounded with it. On the whole the currency question is on the decline, and the determination of the evidence taken before the Committee on Agriculture is not calculated to prop it up. I earnestly recommend to those who entertain doubts upon this subject to read with attention the information elicited from Lord Ashburton, Lord Radnor, and Mr. Saunders, especially that portion of it given in reply to the questions of Sir J. Graham, and Sir R. Peel. Lord Ashburton, who, since the death of Mr. Ricardo appears to me to understand the nature and operation of money better than any other man in public life, and who was expressly cited before the Committee with the hope of bolstering up the case of "the currency party," scouted as the most idle of all delusions—the idea that the agriculturists could derive any peculiar benefit from the lowering the standard of value. On the contrary, he reprobated such a proceeding as not only incapable of affording any special advantage to the landed interest, but as certain to involve all interests in suffering and confusion."

For the benefit of those who may not have the "evidence" within reach we will give Lord Ashburton's answers upon the subject of "depreciation."

Q. "Although you consider that a silver standard or a joint standard might abstractedly be preferable to one of gold, should you advise in case a new arrangement were made with respect to the metals constituting the standard of value, that there should be any depreciation in the existing standard?—A. Surely not.

Q. Do you think that the agriculturist has any special interest in the depreciation of the standard?—A. I think he cannot possibly. I do not see any interest that any person can have in the depreciation of the standard, except that a debtor may be said to have an interest in defrauding his creditor. NOBODY CAN HONESTLY have any interest in the depreciation of the standard."

If Lord Ashburton be an authority upon this subject it is impossible that terms of reprobation can be stronger than those in which he expresses himself in reference to the "depreciation" scheme. A perusal of the evidence contained in this volume, disencumbered as it is of all the less useful part, is perfectly within the compass of the practical farmer, and will amply repay the trouble. We recommend it earnestly to the attention of all our agricultural readers.

THE SCOTCH IRON PLOUGH VERSUS THE SUSSEX TURN-RIST PLOUGH.

(From the *Newry Telegraph*.)

Not very long since we alluded to the rather novel occurrence of a small farmer of the name of Robert Hutchinson having gone to attend a ploughing-match in Sussex, and we have awaited his return with considerable impatience, wishing to know what account he would give of his visit. A few days ago he arrived, and we have obtained two Sussex newspapers. [A report of the meeting, taken from the *Sussex Advertiser*, will be found in the *Mark Lane Express* of the 13th March. Ed. M. L. E.]

The Sussex paper, by its account, leads us to think that a considerable local excitement seemed to have been felt in favour of the old Sussex plough, as the announcement of the first prize being given to one of that description was received with great cheers, and it was particularly requested that the fact of the first prize being given to the old Sussex turn-rist plough should be particularly noted. This is quite pardonable if kept within proper bounds; but nothing can be more senseless if it should be carried to such an extent as to reject any valuable improvement, come from where it may. From the account given in *The Sussex Paper*, it appears that a very considerable discussion took place as to the correctness of the principle upon which the premiums were awarded in which Mr. Hutchinson endeavoured to shew the superiority of what is called square ploughing, viz.—when the furrow is inclined at an angle of 45 degrees, by which means each succeeding furrow rests one-half on that which precedes it, shewing at the surface of each furrow slice, a right angle, resembling the ridge-stone of the roof of a house; by this means the one furrow is pressed sufficiently against the other to prevent the seed from falling down between; and a comb, or, as Mr. King expresses it, a sufficient *grit* is provided to roll over upon the seed and cover it effectually; so that the braird ought to come up as if the seed had been sowed by a drilling machine. We give an extract, from the account in the other newspaper, on this part of the discussion:

“Mr. HUTCHINSON said that it was gratifying to him, as a stranger, to have so many expressions of kindness bestowed upon him. His object in visiting this part was more to see the country and its agriculture than with any desire to carry away the prize, and to see if the plough which had been sent there could be made to plough the Sussex land, and he had not been convinced to the contrary. The manner of judging the merits of ploughing in this country differed from that in Ireland; there, the nearer the ridges were left square the better was the ploughing considered. He should feel obliged to the Stewards to inform him where he had failed; he asked this merely for information, for he did not impugn the judgment of the Judges, who, he felt satisfied, had decided with great correctness as regards their system of ploughing.

“This question was answered by Mr. PAGDEN, who stated that he objected altogether to Mr. Hutchinson's setting the edge, for if it stands six weeks it will be a complete meadow, and three harrows upon the other lands would do more than five would upon his; he would not have the Scotch plough upon his land if it were worked gratuitously.

“Mr. HUTCHINSON said the object in his country was to throw the ridges up in such a manner that both sides should slope alike.

“Mr. PAGDEN said the grand fault in ploughing was not completely turning the land.

“Mr. HUTCHINSON.—On the other hand, does not the square furrow form a cover for the seed?

“Mr. PAGDEN.—Certainly, if you turn the land precisely so that the seed cannot get away, but nearly a third of the seed would go down between the furrows and never come up.

“Mr. HUTCHINSON.—Not if they are properly turned and close.

“Mr. PAGDEN.—But that is not the case.

“Mr. KING stated that he did not think Mr. Pagden's objection was so great as he stated, for he thought that four of the ploughs used to-day did their work very much worse than the Armagh plough. He (Mr. King) understood Mr. Hutchinson to say that the sharper the angle of the ridge, the more grit was obtained by the harrow; and he (Mr. King) would rather sow corn after Mr. Hutchinson's plan, than after land ploughed by Lady Webster's plough.

“Mr. PAGDEN.—That is not my opinion.

“Mr. KING thought that with strong land they could not with the Scotch plough get a furrow at all. There was land which they could not do justice to without the wheel-plough and four horses.”

By this it appears that Mr. King went so far as to say he would rather take chance of a crop after Mr. Hutchinson's ploughing than after that which had got a higher prize. In answer to this, Mr. Pagden, one of the Judges, contended that one-third of the seed would be lost by laying the furrow as Mr. Hutchinson had done, and that it would leave the field covered with grass. According to the account given by Mr. H., the kind of ploughing which was most approved of, was that in which the land “was completely turned,” as Mr. Pagden expressed it, and the furrows laid quite flat, as practicable; the rest, or that part of the mould board of the plough projecting over the furrow slice, so as to press it close down, and the furrows left, as a slater does his slates in slating, only that they did not do more than merely overlap, and thus leave three-fourths, or perhaps four-fifths of the furrow a flat surface, being merely a sod turned upside down, perhaps eight inches broad from the one overlap to the other. It is, if this be the case, quite clear that the seed spread over so broad a space may indeed be mixed with the mould raised by the furrows, but cannot be said to be covered, as in the other case; and therefore it is that the angle of 45 degrees is universally approved of in this country, and we believe every where else where the subject has been duly considered, and we doubt not when the subject has been brought into notice the same judgment will very soon be formed by our Sussex fellow-subjects.

Mr. Hutchinson speaks with the greatest gratitude of the kind treatment he met with, and the attention shewn to him during the whole time he stayed; and, never having been from home before, he seems to have conducted himself with great propriety in submitting, with a good grace, to a judgment which he thought, and which we believe, to have been decidedly in opposition to the most fundamental principles of good ploughing: when challenged by Mr. Hurst, he, with very great tact, gave his reason privately, that he thought it useless to accept it where a decision was to be made on such principles. He, however, expressed his readiness to go and plough anywhere he was required, stating that he had been merely sent by Mr. Blacker to try whether the plough he had recommended would plough the stiff soil of Sussex with a pair of horses. He accordingly accepted Mr. King's invitation and went to his farm. He states, that on going to where Mr. K.'s ploughs were at work, that gentleman said they would pass through the field of stiff clay he had alluded to at the dinner, and when they came into it he asked him if he had a mind to try what he could do with it—the field was encumbered with heaps of stones, collected at different intervals, which left open spaces

of only a few perches—upon one of which he made a trial, and found the pair of horses could plough it without difficulty. They then went to where Mr. King's ploughs were going with four horses in each, and Mr. K. desired him to try what kind of a furrow he could make alongside, and he asserts that Mr. King would not then say but his furrow was just as deep and as good as the others in every particular. The machine for trying the draft was then applied, and was attached to his plough, being tied by a string, and he ploughed for some time, the index shewing a steady draft of, as near as possible, 4 cwt. But when the machine was tied with the same string to the other plough it broke immediately; and when it was afterwards secured to the plough, the index pointed to 8 cwt., which was the utmost the index was calculated for, or it might perhaps have been more. He, therefore, thinks he has a right to take credit for having shewn that the Armagh plough could work in the very stiffest soil shown to him, and that he had made good what Mr. Blacker had conjectured—that a good pair of horses might plough where four horses and two bullocks were employed. He complains much of the crowd which followed him when ploughing for the premiums, as they trampled down and spoiled the look of his work; but it arose from curiosity, and from no wish to injure him. He says he believes there were people at the dinner from a great distance, and the greatest interest seemed to be felt, there being short-hand writers from three newspapers. It shews, however, that the attention of the farmers had not been previously turned to the importance of good ploughing, when there were only nine ploughs started; whereas in this country, at a common ploughing match, unattended with any circumstances of particular interest, it is not uncommon to have five-and-twenty ploughs start.

Mr. H. also mentions what the Newspapers are silent upon—that he had finished his work in much less time than some of those who got the higher premiums, having had time to take his horses to the stable and come back, and was at least a quarter of an hour in the field before the ploughing was all concluded.

In regard to the preliminary observations of the Editor of the Sussex Paper, after talking to a most experienced ploughman, well acquainted with every kind of plough, we feel ourselves authorized to remark that the *weight* of the plough and the *draught* of a plough are totally different things. He states that the wheel-plough is obliged to be drawn with the draught from too high a point, by which means the power of the horse is expended in pulling down the beam upon the wheel, which seems justified by a letter we have seen from Sussex, stating that it was sometimes the case that in stony ground 1 or 2 cwt. was hung on the beam, to keep the plough from starting out of the ground, and, notwithstanding, the ploughman we allude to has held a wheel-plough for ten years; he states he would take the swing-plough in preference in the most stony soils, and had used it when the land had been formerly under the sea, and was nothing but round stones, with scarce any soil whatever.

Good ploughing being the very foundation of all Agriculture, we have gone into a more minute account of this than any other subject would have induced us to do, but we have no doubt our readers will not think the pains we have taken to give all the details, to have been ill-bestowed; and we cannot conclude this article without testifying our high respect for the liberality and public spirit of the Sussex landed proprietor, at whose expense this trial has

been made. We confidently predict that a few more ploughing-matches of the same kind would banish from England the heavy implement which now appears to be such a favorite there. It is but doing justice to say, that the plough sent by Mr. Blacker, and which it appears was drawn by a draft of 4 cwt. when the large Sussex plough, required 8 cwt., was made by Mr. James Scott, of Lurgybuoy, within about a mile and a half of Markethill. The plan is originally taken from the Scotch model, with Kippy's mould board; but there is some alteration in the latter which makes it run lighter and wear more evenly.

Being much interested for our countryman, Mr. Hutchinson, as an Armagh small farmer, we have applied to Mr. Blacker, who has most readily allowed us to state his entire approbation of his conduct throughout, and that it was likewise very highly approved of by the landed proprietor at whose application he had been sent. He also entirely approved of his refusing to accept of any challenge from Mr. Hurst, when the decision was to be made on Mr. Pagden's principles. Mr. Blacker expressed the most implicit confidence in the correct intentions of the Judges—but he must consider them not to have been entirely qualified for that office, as, if it were the merits of the ploughmen they decided on, they went upon what are generally considered to be erroneous principles, and left out the time taken by each—and if it were the merits of the different kinds of ploughs (as some had stated), they were equally astray, for they had not tried the draught required by each to make it do its work—a point which was evidently indispensable to forming a right judgment. He also stated that he had merely sent Hutchinson at the desire of the landed proprietor alluded to, and had no idea of any competition except what the ploughing-match afforded—and that if anything of the kind took place again, he would recommend that successive trials should be made in all the different soils the country afforded; so that if the plough now in use was absolutely necessary for any particular soil, the use of it should be confined to that, and not waste power on other soils where it was unnecessary. In a point of such importance as the establishing what good ploughing consists in, we anticipate all our Agricultural Contemporaries will take a part, in doing which they will do a public service. If we understand the matter right, Mr. Pagden wished the furrow laid as flat as a card-player lays his tricks—only by Mr. Hutchinson's account they were scarcely at all overlapped.

Since writing the foregoing, we have received from Mr. Blacker a letter, addressed by him to Mr. Stephens, (Editor of the Highland Society's Periodical, *The Quarterly Journal of Agriculture*, and who is himself a practical Agriculturist) upon the subject above alluded to, which, together with the answer of that Gentleman annexed thereto, we now subjoin. Mr. Stephens' own opinion would generally be considered decisive of the point at issue, but the authorities he refers to must be considered to set the matter completely at rest, and to establish the principle contended for by our countryman, Mr. Hutchinson, and which is indeed so universally admitted in these counties, that we never heard of the opposite doctrine being contended for until the present occasion. The following is the letter of Mr. Blacker:—

“ March 10, 1837.

“ MY DEAR SIR,—I have a difference of opinion with some Agriculturists in the South of England, in regard to the precise angle at which the furrow should be laid over in ploughing out of lea; and I want you to give me your opinion on the subject, and if you can procure

me also the opinion of Professor Low, Mr. Smith, of Deanston, or any one whose name is known to the world, and also the reasons upon which the decision is formed, you will oblige me much by sending me this, if you can, annexed to this statement.

Your's most truly, "WM. BLACKER.
 "Henry Stephens, Esq., Editor of the
 Highland Society's Journal, The
 Quarterly Journal of Agriculture.
 Edinburgh, Redbrae Cottage, 18th March, 1837.

"MY DEAR SIR,—The furrow slice should *always* be laid over at an angle of forty-five degrees; and the mould board of the plough is made expressly for that purpose. This angle is desirable in every state of land, but it is most easily observed in ploughing up lea. There are several reasons for preferring this angle to every other. The furrow slice in lea if laid on at a *higher* angle than 45 would stand *too upright* for one slice to clap close to another, and thereby bury much of the seed between the slices; besides the opening formed by the removal of such a furrow slice would be *too narrow* for the plough to pass through without much friction; if laid over at a *smaller* angle than 45 the furrow slices would be *too flat*, and not sufficiently cover each other, so as to afford the harrows enough of soil to cover the seed. Besides flat furrow slices being *too broad*, and too much drawn down the sides of each other, afford unequal resistance to the foot of the horse, which, when dragging the harrow over such ploughing, will walk with labour and inconvenience to himself. The plough in turning over *too broad* a slice will leave a portion of the bottom of the furrow to the right hand untouched by the feather of the sock, and hence the ploughing in that case cannot be *clean*. *Too upright* a furrow gives easy access to drought to its bottom; and *too flat* a one retains surface water. The angle of 45 not only avoids all these inconveniences, but ensures the opposite properties. Besides it can be easily demonstrated, mathematically, that that angle exposes the *greatest extent of surface to the sun and air*.

"All these properties of ploughing are so well understood in this country, that reference to the opinion of particular individuals is not requisite; nevertheless I may mention that the opinion of Professor Low may be perused in his Elements of Practical Agriculture, in which the demonstration of the problem alluded to above will be found; as also in Brown's Treatise on Rural Affairs, which latter is just the article on agriculture, in Brewster's Edinburgh Encyclopaedia, in a separate form.

"Hoping that what I have stated is comprehensible, I remain your's ever truly,

"HENRY STEPHENS."

ON THE POTATO.

Great complaints have of late been made of the crops of potatoes in many parts of the kingdom, and it is said by many the crops are not generally so good as they used to be. This in many cases is not surprising: if the growers of this valuable root will not be careful to have good seed, they must not expect a good crop. How careful, generally speaking, is the farmer to procure good seed for his crops; how particular the florist in having the most perfect seeds and plants he can procure; but with the potato, one of the most valuable vegetables in the universe, not one in six is sufficiently careful in procuring good seed. How often we see, in a flat of potatoes, some spring up with two or three weakly shoots, which soon die down and produce no tubers; in another part of the same flat no tops at all are produced. There can be no doubt this is owing to a deficiency in the seed, being in that exhausted state it cannot support the top, and in some instances cannot produce one at all, though if the potato be dug up it will be found to have made an effort to do so. It is a very common practice, but a very bad one, to take little or no notice of seed potatoes until just before they are

wanted; then to go to the pit or heap where they have lain all winter (*or to the market*), and take out what are wanted. Now, in three cases out of four, it is certain these cannot be fit for seed, for in a pit or heap it is impossible for the powers of the potato to be at rest; any one who has used his eyes would perceive how the potato has been exhausting itself by putting out numerous shoots, frequently many inches long. These are generally so tender, they break off immediately, another effort has then to be made when planted to produce others; this of course must make against the crop, for how is it possible to have a good crop when the productive powers of the seed are injured or decayed? This is not the worst, for they are often laid up again to produce other shoots before planting, which are so tender they are not unfrequently broken off a second time. Allow me to suggest a few directions with regard to the seed and planting of this most valuable root. In the first place, I should advise every one to save their own seed. When the first crop of early ones are ready, throw out upon the bed as many middle-sized ones as are likely to be wanted for next year's seed; there let them lie till autumn, by which time they will become a green colour. Let them then be taken up and laid by for the winter in a cool dry place, protected from frost but not put in a heap. Previous to setting them, bring them out and expose them to the air for ten days or a fortnight; then let them be set whole. As you cannot give your late potatoes the same exposure to the sun previous to laying up for the winter, bring them out as soon as you can in the spring, and let them be exposed to the sun till the time of planting. I particularly recommend every one to sow their own seed, as they cannot tell what they are buying if they go to the market for them.

It has been said by a celebrated individual in the horticultural world, that the early potato may be planted at almost any period of the year, and a crop ensured. The same person maintains, that if the top of the plant be cut off by frost, it is of little or no consequence, as there always remains sufficient productive power in the potato to produce others. This opinion I must beg leave to controvert. For everything there is a season; and even granting it matters little at what time potatoes are planted, yet it must follow, as a matter of course, that if the top of the plant is cut off, it must weaken the powers of the same in producing tubers, as an extra effort has to be made.

It is absolutely necessary, from the time the seed-potatoes come out the ground, that they should be as much as possible at rest, to ensure what I should call a good crop. This is only to be done by being particular as to where and how your seed is laid by for the winter. So tenacious is the potato as to heat, that a very low degree will immediately set its powers at work.

Much has been said with respect to setting the potato whole or cut. I was well acquainted with a scientific horticulturist, who, for twenty years, was trying experiments on the potato. After that period,—indeed long before the expiration of that term, he had come to the conclusion that the best crop was obtained by setting whole. Indeed, strange as it may appear to some, I knew an individual who, by setting a *single potato whole*, produced, by great pains in cultivation, the extraordinary number of seventy peeks in one season. This is a fact that I am aware will be disputed by many; but all who do so, I refer to my friend, Mr. Stafford Welsley, whose authority will, I imagine, be sufficient; indeed, I am convinced it is possible to produce more. So much for its productive powers if properly managed. I should recommend early potatoes to be set about two inches deep, and only to be earthed up once slightly. With regard to the later crops, I should say, do very little more: allow all the sun that you can get to the rootlets. I think, three times out of four, harm is done by injudicious earthing up. Most early potatoes produce their tubers as near as they can to the surface; indeed they often lie above the ground. Seeing this is the nature of the plant, why earth them up as most do, making either a trench for the wet to drain into and seab the potato, or exclude the sun from the tubers, in spite of all their efforts to get to it? The winter potato

I would plant a little deeper, and earth up slightly. I feel convinced much of it does no good. To cottagers, small gardeners, &c., I would recommend saving all the refuse of their gardens, such as leaves, cabbage-stalks, and everything of that sort, to lay up to rot through the winter: if they have moss near, get that also. This will answer every purpose of stable manure, and will cost nothing but a little trouble.—*G. Dale, Cor. of H. Register.*

ON FARM-YARD MANURE.

ON A PARTICULAR MODE OF APPLYING FARM-YARD MANURE. BY MR. JOHN BAKER, NASSAU COTTAGE, LEEDS.—The present depressed state of agriculture through the kingdom, invites the serious attention of all connected with that important branch of industry; it being a lamentable fact that, whilst the most splendid discoveries in science are daily applied to the improvement of our trade and commerce, agriculture, as a science, remains almost stationary, notwithstanding individual and national prosperity are so deeply interested in promoting its welfare. For more than twenty-five years I farmed from 500 to 1,000 acres in the county of Norfolk, during which time my attention was carefully directed to the consideration of every method or system of farming which was calculated to increase the productiveness of the soil, and to improve the condition of that numerous and industrious class of persons who are dependent upon it. The proper use of manure is amongst the most material improvements which I have discovered. By the common, I may say general, mode of managing it, only half the benefit which ought to be conferred on the crops is given, whilst the system which I have adopted doubles the value of all the manure made, and at the same time it really lessens the expense; and it is to this point that I will confine myself in this paper. That "the muck-cart is the best farmer," is a maxim as fully acknowledged as it is oft-repeated, and believing that upon the proper use and application of it the success of the farm mainly depends, I have never failed to attend to this important branch of husbandry. Having experienced the practical advantages of my system, as well upon land under my own cultivation in Norfolk, as upon farms belonging to my relations and friends in that county, where it had been introduced at my suggestion, I am induced, at the earnest recommendation of many gentlemen who have also witnessed its beneficial effects in Yorkshire, to invite the attention of agriculturists generally to the subject. Manure of almost every description is carried from the place where it is made, and deposited on a heap for four, six, or eight months, where it ferments and becomes a soft, black, cohesive mass; it is then put on the land and ploughed down, after which the crop is sown; this may not always be done, but something resembling it is the prevailing and general practice in every part of the country. My method, the success of which has been proved by numerous experiments, is to spread the dung on the land as soon as convenient after it is made, except in winter; the manure made at that period of the year remains in the fold-yard till the spring, where it does not ferment. The whole is taken in the spring, summer, and autumn, fresh to the land: if in fallow it is ploughed in with a thin furrow: the land is harrowed and ploughed again in a fortnight, and in a fortnight after harrowed and ploughed a third time; after which the muck, however long it may have been, is reduced, and the soil will be in as fine and friable a state as the land is capable of. From the time the dung is put on to the last mentioned ploughing, nothing can be more unsightly than its appearance. If it is to be applied to pasture, I spread it over the surface of the ground from the beginning of spring to the end of autumn. Three essential points are to be observed: First, to apply the manure to the soil as soon as convenient after it is made (except in the depth of winter); secondly, to keep it as near the surface as possible; and, thirdly, to mix it well with the soil. These being observed, I confidently assert, that advantages equal to double those now derived

from manure are communicated to the land by an increase in the fertility of the soil, exhibited in healthier and more abundant crops; so that a farm of 200 acres of arable land of medium quality, producing 400 loads of dung or two load for every acre, worth five shillings per load, will be benefited to the extent of ten shillings per acre annually, and where more manure is made, which on every well managed farm is done, the advantages will be greater. This result has been produced upon the farm now in my occupation, belonging to Lord Cowper, in the neighbourhood of Leeds, to which I entered at Candlemas 1831; it was then in the most deplorable condition; so deplorable was it, indeed, as to lead many of my friends and neighbours to predict the impossibility of my procuring a tolerable crop upon one of the fields for seven years to come; but this field, from the application of manure according to my method, has become exceedingly productive. I followed it for turnips, and in May (1831) I put on about twelve and a half tons of good fresh-made stable-dung per acre; as much as possible was taken from the stables and carried to the land the day it was made. My proceedings greatly amused my agricultural neighbours. The preceding tenant observed, that however such a system might have answered in other parts of the country, here it would be a useless expenditure both of time and money and a great waste of manure. To convince him of the benefit to be derived from such manuring, I directed one piece in the middle of the field to be left without covering. With the exception of the land upon which no manure had been laid, the field produced a very fine crop of turnips, worth at least six pounds per acre, whilst the crop raised upon the land not manured was not worth six shillings per acre. After the turnips the field produced a very heavy crop of barley, averaging not less than seven quarters per acre, and in 1833 I obtained a most abundant crop of clover without any manure except on the land omitted in the first year. I also covered a field of pasture the same summer with the same kind of manure, half of it in June and the rest in August. Six weeks after the first part was done I shewed it to a very shrewd and scientific gentleman, well acquainted with country affairs, who expressed his astonishment at the improvement. In October, the farmer whose land adjoins my own, said he had never before seen such extraordinary improvement in any ground. Knowing that he was one of those who had ridiculed my system, I hinted to him that the propriety of it had been much doubted. He acknowledged he had condemned it, and said he now saw that which he would not have believed had he not witnessed it, and that he thought the manure must have contained a large portion of white clover and other grass seeds, otherwise, in his opinion, such an effect could not have been produced. In the hottest part of last summer, I covered, in the same manner, the only field on my farm which had not been previously dressed in a similar way, leaving two ridges in the middle unmanured. I removed all the cattle from this field for six weeks, at the end of which the two ridges had scarcely grass to sustain a goose, whilst the rest of the field looked like a field of fog or aftermath. Many gentlemen examined it. Some seemed satisfied that much benefit was derived at very little cost; others expressed their conviction that it was the greatest improvement they had ever seen, and it is my firm belief that, from the time the dung was put on to the end of summer, I had at least three times as much grass from the land manured as from the other. I must mention another fact. The man who spread the dung had farmed many years for himself, he might be considered a clever man; he said to me, you would not thus waste manure, if you had not the means of getting plenty more. I asked him to wait a month before he decided; he then declared that he had never been so much mistaken. I mention these things, knowing that my plan has much to contend against, and hoping that noblemen and gentlemen, who try my method, may not be laughed out of it before they have applied it to the test of due experience. It may be said that, in these experiments, I did not compare different sorts of manure. I have done so repeatedly, but, in truth, I had then no rotten dung by me. I would propose, to any

one who doubts the propriety of my plan, to put a given weight of fresh dung on a heap, to remain (turning it over or not) for twelve months, at which time spread it over the land, and at the same time take a similar weight of fresh dung of the same kind, and spread it over double the space, and I doubt not the result. Hitherto I have confined the recommendation of my plan to practical experience alone, but I am not without scientific and chemical authorities to support me. Mr. Joseph Hayward's Treatise on the Science of Agriculture is worth reading by the agriculturist who searches after truth. Being aware of the great difficulties with which the farmer has to contend, I should recommend any new system with great diffidence, if attended with additional expence; but as the plan I am desirous to introduce is alike recommended by its simplicity and economy, and also eminently calculated to promote the fertility of the soil, and to secure, by that means, a more adequate remuneration to the farmer, I cannot doubt of its being generally adopted whenever its practical advantages are more generally known and appreciated. With a view to facilitate its introduction, it will give me great pleasure to correspond with, or to wait upon, any nobleman or gentleman, and to explain more fully the details of my method of applying manure, or to assist in introducing the practice upon any farm in hand, either under my own superintendance, or that of my son, who is at this time disengaged, and who is abundantly qualified for such purpose, he for several years having had almost the entire management of a farm of 800 acres in the county of Norfolk, belonging to myself, upon which, as I have before observed, the system was proved to be highly beneficial. My subject has drawn me on to greater length than I expected; I cannot, however, conclude without saying, that if, by the system I recommend, ten or fifteen shillings worth of manure can be added annually to every acre of land of moderate quality, at no greater expence than by the old method, I think the landlord, the tenant, and the public, will be great gainers.—*Quarterly Journal of Agriculture for March, 1837.*

THE CULTIVATION OF STIFF CLAYS.

Sir,—I will willingly comply with your request in forwarding to you all the information I can collect on agriculture, which I think will be interesting to your readers; and after perusing it, if you think it worthy a space in your valuable journal, you have my consent to publish it; as I am every day more convinced it is for want of a general communication on the subject, one county with another, that greater improvements are not made in that important branch of business. I will endeavour to make public the result of every experiment tried in the various counties I pass through, that all may derive benefit therefrom; and shall likewise give you the general system pursued in cultivating the soil in the different districts I go into, also the management of stock, &c. I know there are but few farmers who either travel or read to gain information; and why they do neither one or the other, no doubt arises from various causes. But there are some who have an idea, were they to see all the land in England, and read every book published on the subject, they could learn nothing; as I have frequently been told by them it was impossible any one could tell or show them how to farm their land better than they knew, having been on the farm all their lives. I have often gone over a farm occupied by such a man, and invariably found it in a very bad state of cultivation; he continuing to farm it on the same system his father and grandfather did before him, and the only reason he can assign for not making a change is, that they did very well, and why shouldn't he? But he ought to recollect he does not live in the times his forefathers did—the expenses are much greater on the land than they were in their time, consequently a change in the system must be made to meet them; as under the old system of farming, it would be impossible for the land to raise sufficient to meet the demands upon it.

And I trust I shall not give offence in telling such men they may, by occasionally taking a tour into various counties, to see the different systems pursued in cultivating the soil, cropping the land, and management of stock, and reading books written on the subject by practical men, who thus labour for them, learn a very great deal to their advantage.

I will now name a circumstance, to show that it is not that man who has from his cradle been brought up on a farm that always makes the best farmer, or cultivates the soil to the greatest advantage, although he ought so to do. A short time since I called on a gentleman on the southern side of Norfolk, who had served an apprenticeship to a draper, and carried on that business till about twelve years since, when he got tired of the shop, and took a farm between 400 and 500 acres, naturally a poor, stiff, clay soil. He very politely asked me to walk over his farm; this invitation I readily accepted, having been told he was a most excellent farmer; and I must candidly confess I never saw a heavy land farm in so fine a state of cultivation; and it was brought into this state by a man who had gained his information by general observation and reading,—not by practice alone. This farm had for several years before been in the occupation of a regularly brought up farmer, one of the old school, who had pursued the same system his father and grandfather did, in ploughing and cropping, &c., till he could scarcely raise the seed again, and eventually was compelled to leave it, which he did in a most deplorable state—full of rubbish, and completely exhausted. The present occupier (and apron-string farmer, as his neighbours choose to call him) was sure nothing could be done with it, unless thoroughly drained and cleaned; this he set about to accomplish in right earnest. The first thing he did was to clean out all the ditches and water-courses, that the water which would flow from the land drains might be freely and quickly carried off; these he put in from 20 to 36 inches deep, and some deeper, as necessity required; by this means he got rid of all that water which was injurious to the soil. His next object was to free it from rubbish, then to grow all the green crops, such as tares, rape, &c., he possibly could, some of which he ploughed in as a vegetable manure, and the remainder were cut for soiling stock in the yards; and the manure made there he placed on the land in a raw coarse state, that is, before it had undergone any great degree of fermentation: this he did before he attempted to grow any kind of corn, except a few oats for his horses. By draining, ploughing in these vegetable crops, and applying the dung as before stated, he has caused that land to work so pliable and easy, that it can now be ploughed with two horses, which before was considered very hard work for three to accomplish; and it is also brought into such a state as to produce excellent crops of turnips and barley, both of superior quality. These were crops his predecessor had an idea could not be grown on this farm with any kind of advantage; nor could they, in the state it was in at the time he occupied it. The fourth year he had got the farm fully cropped on the fourth course; viz., turnips and tares, barley, seeds, and wheat, and continues to pursue the same system of cropping.

I will give the average produce of corn grown per acre on this farm, when in the hands of the former occupier, who farmed it on a sixth course, viz.:—1st year, clean fallow; 2nd, wheat; average produce per acre, 20 bushels; 3rd, beans; produce, 24 bushels; 4th, oats; produce, 32 bushels; 5th and 6th, seeds. The average now obtained by the present occupier on the fourth course, viz.:—1st year, turnips and tares; 2nd, barley; average produce per acre, 40 bushels; 3rd, seeds; 4th, wheat; produce, 34 bushels per acre. Setting the price of wheat at 7s. per bushel, oats at 3s., beans at 4s., and barley at 4s., it will be seen the former occupier did not make so much of his three crops of corn in six years, on three acres of land, as the present occupier does in four years, on two acres, by 3l. 6s. This on the whole farm amounts to a very considerable sum of money, and proves what may be done on heavy land by good management. I have lately seen many farms composed of this description of soil, which have

within these few years been changed from a fifth and sixth course to a fourth, by a system similar to the above, much to the advantage of the occupiers.

I am, Sir, your obedient servant,

AN AGRICULTURAL TOURIST.

Peterborough, March 4th, 1837.

N. B.—I shall say more on the cultivation of heavy land in my next.

ON THE PAST AND PRESENT STATE OF HORSES.

(FROM THE QUARTERLY JOURNAL OF AGRICULTURE.)

A Comparative View of the Form and Character of the English Racer and Saddle Horse, during the last and present centuries. Illustrated by eighteen Plates of Horses. London: Thomas Hookham, 15, Old Bond Street. 1836.

We owe an apology for our apparent neglect of the author of this elegant volume. This explanation will convey it:—We expected a knowing article from the pen of a correspondent conversant in the history of the English racer, but were disappointed till we could no longer delay when about to conclude our volume.

The main object of his work, the author informs us in the introduction to his handsome volume, is to investigate the results of that structural enlargement of animals which is unnatural, and to point out those properties which may be acquired by certain of them when fully reclaimed, and those which they are likely to lose when in this condition. The investigation becomes of vast importance when the character of our race-horse, and of this country as the nursery of the finest horses in the world, is involved in the question. That such an investigation is required, not only at the hands of our author, but of Parliament, we may be convinced from the melancholy fact, that our once noble and matchless race of race-horses, the boast of the country and the envy of the civilized world, is degenerating, and will degenerate still farther if some immediate and efficient means, such as those pointed out by the author, be not adopted to arrest the progress of the evil; and what constitutes an aggravation of the evil, is, that it originates in the avarice and cupidity of our own countrymen, and in that portion too, who, of all others, in their conduct ought to be actuated by higher and purer motives. Instead, as in years bygone, of emulating with generous rivalry and prosecuting with laudable zeal the running and breeding of race-horses for their own noble qualities, the sole object of the "turf" now-a-days seems to be to win heavy stakes, regardless of the animals which are used as the instruments of avarice. The race of the day is run, and the successful competitor is perhaps never more heard of. This is a serious but not rash accusation; it is completely proved and amply illustrated by our author, by examples which cannot be controverted. A comparison of the racers of the last century with those now in vogue display a superior fulness of form, and just that which we might expect to find at a time when the tasks performed demanded a fine union of speed, stoutness, and structural powers. The

race-horses of the middle of the last century, such as Sedbury, Old Partner, possessed compact bodies, capacious chests, powerful stifles, fine limbs, and general bearing. The racers of a later date, such as Mambrino, Sweetbrier, Sweet-William, acquired properties even more valuable than their predecessors. To a capacious chest and compactness of body, they united strong loins, well inclined and long shoulder-blades, covered with a great mass of fine muscle, muscular arms, and strong joints. The speed of the later horses were increased whilst the muscles escaped coarseness, and the constitution maintained its vigour. Approaching towards the termination of the last century, the properties indicative of increased speed were evolved in such horses as Sharke, Johnny, and Gimerack. Their chests were capacious, ribs finely hooped, shoulder-blades had a good inclination and great length, having a mass of muscles on the arms and withers, and the quarters, the placing of the hind feet, large pastern joints, and back sinews, all admirable. Approaching still nearer to our own times, at the commencement of the present century to the days of Muly Moloch, Selim, and Pericles, we find a form still more favourable to speed, by a decided elongation of the skeleton. In form, however, these horses were superior to those who succeeded, but inferior to those who preceded them. They displayed longer backs, longer and heavier limbs, less muscle, smaller sinews, and sharper withers. They came too late in the period of the turf to perform the tremendous work of their predecessors, who used to run six miles carrying eight stones, and heats of four carrying twelve stones. The tasks had been much diminished ere they appeared to public view. From that period to the present, racers have lost much of their vigour and stoutness, and their structural development has been entirely promoted for one object—speed. Heavy stakes, and lowering the standard of running from heats to a single run of short distance, have been the consequences of unfortunate changes; whilst the continuance of these conditions has been the cause of perpetuating them. The result has been exceedingly unfavourable to the character of our racers and saddle-horses, producing weediness and disposing them to coarseness. The long back, flat sides, long limbs, weak loins, delicate constitutions, and strong disposition to local and hereditary disease of the modern racer and saddle-horse, are inadequate substitutes for the short back, short limbs, capacious chests, full sides, and muscular character of the old racer and hunter. Speed and weakness are no compensation for loss of vigour and stoutness.

But the degeneracy of the race-horse is an evil not alone affecting itself—it is permitted greatly to influence the character of our saddle-horses. Farmers cannot breed saddle-horses without the aid of the racer, and yet over the quality of this animal they have no control. As may be expected, the offspring displays many of the bad characteristics of the parents. Hence farmers will not largely enter into the breeding of saddle-horses; they consider it subordinate to every other business of the farm, because they have no reliance on the excellence of the racers' offspring; and they pay

little attention to a matter which produces a precarious return. Besides, they least understand a branch of their profession which requires the greatest science in its management. Need we, therefore, wonder that such hunters as Spankaway and Mr. Mickleswaite's are not to be obtained for love or money at the present day!

The author's eulogiums on the figure and character of the old racers are fully supported by the well-executed figures which he has given from the portraits of those celebrated animal painters of their day—Seymour, Stubbs, and Marshall. They are all apparently good drawings from the originals, and beautifully lithographed. Not to appear hypercritical, we should say the portrait of Protector is out of drawing. When so much of the counter and face are seen at a side view, it is impossible, in perspective, that the hind legs could be so near the lower edge of the plate as is represented. This, of course is not the error of old Stubbs, whose acute eye could trace so minutely the lineaments of the face of the horse. Interesting as is the consideration of the past and present condition of the race-horse, we have not space to devote to the investigation of the rationale of the subject as treated by our author. We must content ourselves in giving an extract from the author's recapitulation of his own arguments.

“The reader has seen that a change of form in our racers was quickly followed by a corresponding change in the nature of the running; that when the forms of the animals had ceased to be compact, the distances were shortened, and the weights lightened. It has been shown by what expedients the breeders for the turf have maintained a good quality of muscle in the modern race-horse; the accompanying plates prove, however, that the older horses had more muscle on a specific surface of bone than the modern ones; this fact is farther corroborated by the inability of the modern racer to carry the old weights. It is obvious that the interest taken in the turf by those who breed for it, in no degree depends upon the nature of the tasks performed, or on the merit of the horses as a race. The sole object of every individual breeding for the turf is to win races, be the nature of them what it may; each of these breeders, therefore, looks to the present rather than the future. There can be little doubt that the tasks performed by the old race-horses were adjusted to their strength, and that the change in the running was the consequence of diminished power in the breed. It has been said that the modern racers are equal to running the old distances; but the intense distress they exhibit when occasionally made to run a single heat of four miles, with a light weight on their backs, leaves no doubt that their stoutness is diminished. Their inability to carry weight is yet more sensible; it is not only shown by the change in the running, but by the want of muscular power in the greater portion of our saddle horses, which have enough of racing blood to secure good action. While it is admitted that the form of the saddle-horse should be compact and powerful, this class has become so rare as to obtain in the market an extravagant price. It is impossible to suppose, whilst the racer exercises its present influence over the character of our saddle-horses, that these can be powerful and compact while the former is the reverse.

“If the reader agree with us in concluding, that it is the natural qualities of the racer, such as his

form and vigour, which have become defective, and not any acquired property, like that of speed, he has now to determine whether the remedy we propose be the proper one. It rests on this foundation,—that, as the properties which have become defective are natural ones, we must recur to the source where those properties are found in perfection. The intelligent reader must perceive that the great size so much admired by the public in brood mares has been acquired. If these large mares produce the animals we want, they suit our purpose; if they fail to do this, they must labour under some defect which is not altogether of a material character; so higher property has become defective, which can only be repaired by recurring to more natural animals. These we can always render large, by means of richer food than nature affords; but natural properties can only be renovated by recurring to their source. We find the symmetry of the skeleton in the enlarged horse best adapted for useful purposes, when it diverges least from that which is natural, from that form which we call compact. Horses which are able to traverse a great distance rapidly and frequently, with a considerable weight on their backs, display this form. This, like stoutness, is an effect, and one which nature only can produce. Large horses can only be reared on very unnatural food; they are less stout than small ones under exertion, take more time to recover from this, and do not carry weight so well; in other words stoutness, and the power of carrying much weight for a long distance at a rapid rate, are not dependent on the comparative weight or surface of the muscles; but on a sufficiency of muscles; united with that distribution of the skeleton, which, while it denotes vigour, is mechanically adapted for fine action, and for carrying weight. The reader has seen how dependent are our saddle-horses upon our race-horse, and why no private individual breeding for the “turf” has recourse to fresh blood. This, to be of permanent service, must be in great amount; in other words, the number of the animals must be great to admit of sufficient choice, and to avoid too close alliances of blood. No individual can long maintain a breed of horses in anything like perfection, if, after taking some years to form a new race, he is to be sufficiently remunerated by letting out or selling stallions at a high price; the breed becomes ruined by its numbers being too small. A fine race of horses may be formed, but it cannot be long maintained, unless its number be great, and fresh blood often had recourse to. The English racer, we cannot doubt, acquired his enlarged structure by rich food, and his unnatural speed under the operation of continued selection for that property. If our ancestors were able to exercise this power over nature, and if we have the same power, is it not worth our while, now that our horses have become so much deteriorated for useful purposes, to try if we cannot farther carry out the system of those who originated the ‘turf,’ by making the principle of continued selection applicable to a union of properties, rather than to one property? If the standard be discreetly chosen for testing a race of horses, being such as they can go through without distress, should this standard be afterwards lowered because the power of the racer becomes afterwards diminished? If not, and if experience proves that private individuals do lower the standard by which their horses are tested, rather than put themselves to trouble and expense incompatible with individual interest, ought we not to endeavour, in this special case, to effect, by means of a national establishment, that which experience shows is not likely to be ef-

fectured by individuals? Nothing, it is clear, can long maintain a fair union of properties in these animals, but a test discreetly chosen and steadily maintained. That selected by our ancestors, and continued down to the middle of the last century, was sufficiently searching, it only required to be fixed. The long time the earlier horses remained on the turf, proves the greatness of their vigour, and the fine condition of their limbs. It is notorious how quickly the limbs of the modern racer give way: a single race, nay a preparation for one, often makes them break down. Had the old standard been steadily maintained by which our early racers were tested, the modern ones would not have been permitted to deteriorate in respect to qualities which, being natural, could be renovated by a recurrence to nature. The modern racer has not lost speed; he is swifter than the earlier horses, but he has no longer that form and those qualities which denote sufficient vigour. If we once ascertain the full extent of vigour belonging to horses of the best race, in an almost natural condition, if in engrafting gradually on such a race the acquired properties we want, we observe narrowly the minutest loss of vigour which may from time to time be developed, we shall soon ascertain by a mass of facts carefully recorded, how much of this animal's natural vigour can be united with the necessary amount of artificial speed or artificial structure. The moment a new race of horses, formed after this manner, has acquired sufficient speed and structure, while maintaining sufficient vigour, our standard for testing this union of natural and acquired properties should be at once erected, and ever afterwards steadily maintained. This at least should be the course pursued with the horses bred within the precincts of a national establishment. Here, the animals which did not come up to the standard once fixed upon for testing the race, should be drafted, and if the evil pervaded the whole of the enlarged stock, this should be renovated by a cross with the smaller animals kept in reserve for the purpose. We have been led to suggest a plan for the management of some of our native ponies, by the small number of the animals left now to choose from. If frequent recurrence to horses nearly in a state of nature be beneficial, the quality of them should not be allowed to deteriorate. In keeping a considerable number of well-selected native ponies in a pure state, as respects race, while submitting them to the influence of continued selection, we should place them in the situation of our moor sheep and hardy Scotch cattle, which, though nearly in a state of nature, and living on the poorest pasturage are yet subjected to a system of continued selection. To these small but admirable animals we are compelled to recur, when our more factitious sheep and cattle have become too delicate. Under the plan now proposed, none of our native ponies would be enlarged, or withdrawn from their miserable pasturage, unless their form and action were good, the only change then effected would be a pasturage a little better. Any farther enlargement would be made to depend upon the manner in which they had been found to bear the preceding one. This plan, though simple and cheap, would, after a few years, be followed by consequences highly beneficial; we should derive from it practical information which cannot be procured by any system less comprehensive; and if nature be the source to recur to, when the natural propensities of factitious horses are deteriorated, those who breed our saddle horses would find that done for them, which we have reason to conclude they will never do for themselves. The reader is called on practically to determine whether

our race-horses are deteriorated in respect to useful and national objects, and if so, whether the properties which have become defective are natural or artificial ones. If he conclude that their natural properties are deteriorated, he will probably admit that Nature is the only source to recur to for a remedy."

Our author instances the practice of the breeders of Herefords and Devons, who have continued so long to produce large oxen from small cows with little loss of either hardness or activity; and condemns the theory of Mr. Cline, who maintained the necessity of breeding from large cows. Mr. Cline's theory is not founded on fact, for ordinary-sized cows of every breed, meaning ordinary to be relative to the natural size of the breed, produce the finest stock, and large bulls are not requisite for producing fine stock, provided they are of fine quality. But it should be borne in mind that Mr. Cline lived at a period when it was generally believed by breeders that the female had the greatest share in imprinting properties on the offspring, and of course he naturally wished to support the prevailing opinion by theory; whereas it is now universally admitted that the male exercises the greatest influence on the offspring. It should also be remembered that castration has a considerable influence in enlarging the structure of animals, so that whatever may be the size of the parents, the emasculated progeny will always be larger on the same kind of food. In his remarks on breeding cattle, our author inscribes two paragraphs which we cannot reconcile. At page 10, he says, "*The richest pasturage in England on which cattle are reared lies on our north-eastern coast.* Here the old short-horns, so many of which came annually to supply London with milk, were bred. They were large, long, and coarse in the limbs, delicate and ill-shapen, requiring at all times expensive food, and fattening slowly; they gave a large quantity of milk, but this yielded little of either curd or butter. This race has been renovated within a few years by a cross with a hardier breed—with one in a more natural condition, and the produce is known by the name of the '*new short-horns.*' This race is a great improvement upon the old one, and *has spread itself through nearly all our dairy counties;*" whilst, at page 16, he says, "*With one exception, every breed of grazing cattle in the three kingdoms is reared on either bad or indifferent pasturage.* The Durhams are the only grazers we possess which are *reared on rich pasture.* This is a new variety inferior to the Herefords, though more costly to rear. It is handsome, and, when supplied with rich food, the animals become very fat. *This race is confined to a small portion of the kingdom, and there is no prospect of its extending further.*" We have italicised the words in the two sentences just quoted which to us appear contradictory. What are the Durhams but new short-horns? Did not Mr. Charles Collings originate the new short-horns, and did he not originate them in the county of Durham?

Our author devotes three chapters to the mounting and arming of our cavalry, and military punishments. These are subjects foreign to us, yet, having been a cavalry officer, as he himself informs us, our author's opinion on them are entitled to

consideration. Indeed, this is the portion of the work which he has evidently written *con amore*. It is entirely free from that quaintness which obscures, and sententiousness which disjoins, the sentiments of the former part of the treatise on the horse. His sentiments on military punishments are expressions of the most rationally humane feelings.

We cannot resist copying extracts from a highly interesting private letter of that accomplished traveller, Burckhardt, to Mr. Sewell, of the Veterinary College, London, which is given in an appendix by our author. It will correct many popular notions respecting the numbers and character of the Arabian horse. Here it is, and with it here an end of the article.

“It is a mistaken belief that Arabia is very rich in horses. The breed of horses in that country is limited to the extent of its fertile pasturing districts, and it is in these parts only that breed prospers, while the Bedouins, who are in possession of poor ground, seldom do possess any horses. We therefore see that the tribes richest in horses are those who dwell comparatively in the fertile plain of Mesopotamia, on the borders of the Euphrates, and in the Syrian deserts. It is there that the horses can feed for several spring months upon the green grass and herbs of the valleys and plains, produced by the rains, which seem to be an absolute requisite for its reaching to its full vigour and growth. Horses are much less numerous in Redjed, than in the aforementioned parts, and become scarce the more we proceed to the south. In the Kedjat, in the mountain of that country, and from thence towards Yemen, few horses are seen, and those few are imported from the north. The Atenne tribes of the frontiers of Syria have from 8,000 to 10,000 horses, and half that number belongs to other small tribes roving about in the same province. The single tribe of Arabs Montefek, in the desert watered by the Euphrates, between Bagdat and Bassora, has, at a moderate calculation, 8,000 horses; the tribes of Dhefyé and Beni Thamer, in those quarters, are rich in horses in proportion; while the aggregate number of horses of Redjed, Diebel, Hamac, and Rasyne, viz., from near the Persian Gulf, as far as Medina, is at most 10,000. The large tribes on the Red Sea, between Akaba and Mekka, and south and south-east of Mekka as far as Yemen, have very few horses, especially those of the mountains. In the eastern plains, beyond Beeche and Redjan, more horses are met with. The tribe of Rantan, who live in that quarter, is celebrated for its studs, and so are the Dowasen. The inhabitants of Redjan and Yemen themselves are seldom in the habit of keeping any; and I believe, not from truth to err, in admitting 5,000 or 6,000, are the farthest number in the country, from Akaba, on the north point of the Red Sea, southwards to the shores of the ocean at Nadrament, comprising the great chain of mountains and the level ground on the west of it towards the sea. The hot climes of Omar are likewise said to be little favourable to the race, and horses are still there scarcer than they are in Yemen. In affirming, therefore, that the aggregate number of horses in Arabia, as bounded by the Euphrates and Syria, amounts to almost 50,000, a number much inferior to that found in Europe or any other parts of Asia upon an equal extent of ground, I am confident I have not underrated them.

“The richest country in this part of the East appears to be Mesopotamia: the tribes of Curdes and

Bedouins, in that quarter, very likely possess more horses than all the Arabian Bedouins together, for the richness of their pastures easily propagates their studs. The best pasturing places of Arabia not only produce the greatest quantity of horses, but likewise the best and most chosen breeds. The finest Kobeyls of the Khomh are met with in Medjid, on the Euphrates, and in the Syrian deserts; while in the southern parts of Arabia, and especially Yemen, no good breed of horses exist but those imported from the north. The Bedouins up the Redjan have very few horses, their strength consisting in camel riders and foot soldiers armed with matchlocks only. In the tract between Mekka and Medina, between the mountains and the sea, a distance of at least 260 miles, I do not believe that 200 horses can be found, and the same proportion of numbers is to be remarked all along the Red Sea from Yemba up to Akaba. The united army of all the southern Wahabee chiefs who attacked Mahomed Ali in 1815, at Byssel, consisting of 25,000 men, had only 500 horsemen with them, mostly belonging to Redjed and the followers of Faisal, one of Sauvris' sons, who was present in the army. The climate and pasture of Yemen is said to be prejudicial to the health of horses, many of them die there of disease; their breed never thrives, and it degenerates in the first generation. The Imam of Samæ, and all the governors of Yemen, raise a yearly supply of horses from Nedjid, and those of the sea-coast receive considerable supplies by Sowakin from the Nile countries.

“During the Watabee government, horses yearly became scarcer among the Arabs. They are sold by their masters to foreign purchasers, who carry them to Yemen, Syria, and Bassora, which latter place supplies India with Arabian horses, because they are afraid to have them seized by Saono or his successors, it being become the custom, upon every slight pretext of disobedience and unlawful conduct, to declare a Bedouin mare forfeited to the public treasury. The possession of her besides obliges her master to attend continually his chief in war. Many Arabs thus prefer keeping no horse at all. In the district of Djibel Shamarr many encampments were seen of late without a single horse, and it was known that the Arabs Meteyr, between Mednich and Kasym, had reduced their horses within a few years from 2,000 to 1,200. The late sheriff of Mekka kept an excellent stud of horses. The best stallions of Medjed were carried to Mekka for sale, and it was become a fashion among Bedouin women, going a pilgrimage to Mekka, to bring the sheriff the stallions of their husbands as a present, for which they took in return presents of silk, ear-rings, &c.

“As far as my knowledge goes, Syria is the best place to purchase true Arabian blood horses, and no district is more convenient for that purpose than the Nauran, where the horse may be purchased from the first hand, and be chosen in the encampments themselves of the Arabs who fill these plains in spring time. The horses bought up at Bassora for the Indian market are purchased second-handed from Bedouin dealers, and an Arab will seldom undertake to send a good horse far off to the market with the uncertainty of selling it. True blood horses of the Khomzæ, as I am credibly informed, seldom find therefore their way to Bassora, and most of the horses purchased there for the Indian market are belonging to the Montefek Arabs, who are not careful in maintaining a pure breed. It might perhaps be worth while for the great European powers to keep persons on purpose constantly employed in Syria in purchasing horses for them, as the best means to cross and improve their own stud. Damascus

would be the best position for such persons to reside in. I fancy that very few true Arabians of the best breeds, and still less any first-rate horses of them, have ever been imported into England, although many Syrian, Barbary, and Egyptian horses have gone by that name.*

"The Bedouins say that the Egyptian mare, if coupled with a blood Arabian, produced a good breed, much better than the indiginate Syrian mares, whose breed is not worth any thing even if crossed with the Koheyl. The Bedouins of Nedjan are in the habit of purchasing mares from the Egyptian pilgrim caravans, which they cover by good stallions, and which they sell afterwards the fillies to the Arabs of Yemen. In Egypt itself, on the borders of the Nile, no particular breed of horses is distinguished; the best horses in this country are produced in those parts where the best clover grows, which is in Upper Egypt about Tahsa, Annimia, and Tarrivoust, and in Lower Egypt, in the district of Meuzaleh. Extremely few blood horses come to Egypt, which is less to be wondered at, as this eminent quality of bearing fatigue is little wanted in the fertile Nile borders. The Egyptian horse is ugly, of coarse shape, and looking more like a coach horse than a racer; thin legs and knees, short and thick neck, are their greatest defects. The head is sometimes fine, but I never saw fine legs in an Egyptian horse. They are not able to bear any great fatigue, but when fed their action is much more brilliant than that of the Arabian; their impetuosity renders them peculiarly desirable for heavy cavalry, and it is upon this quality of the horse which the celebrity of Egyptian cavalry has ever been founded. In their first onset it is much superior to the Arabian, but where long marches become necessary, and the duties of light horse are required, the Egyptian yields infinitely to the Koheyl. The Lybian Bedouins draw their supply of horses from their own breeds as well as from Egypt. In the interior of the Desert and towards Barbary they are said to have conserved the ancient races of Arabian horses, but this is not the case in the vicinity of Egypt, where they distinguish as little any peculiar races as the Egyptians do.†"

* "I have never met with any geldings in the interior of the desert. It would be erroneous to suppose that the horses of the Rhouse or noble breed are all of very perfect and distinguished quality and beauty. Amongst the descendants of Eclipse may be found mere hacks, and thus I have seen many Koheys that have little more than this name to recommend them, although the strength of bearing fatigue seems to be common to all the desert race. The fine horses, however, of the Rhouse are in far greater number than the common horses belonging to the same breed, but amongst these fine horses few only are found that may be called *first-rate horses*, in either bone, beauty, or action; among a whole tribe, five or six only, and in the Syrian desert there are perhaps not more than 200 of that description, each of which may be worth in the desert itself from 150l to 200l; of these latter very few if any have ever found their way to Europe, although it is through them alone that successful attempts could be made to *ennoble* the European race, while the usually imported horses are all of a second or third quality."

† "About the pedigree of Arabian horses, I must here add, that in the interior of the Desert the Bedouins never made use of any, as among themselves they as well know the genealogy of their horses as they do that of their masters; but if they carry their horses to market to any town, as Bassora, Bagdat, Aleppo, Damascus, Medina, Mekka, they then take care to have a pedigree written out, in order to present it to the buyer, and only in that case will a Bedouin be found

"The Arabs of Naazy and Noteyn, Upper Egypt, in the desert between the Nile and the Red Sea, have continued the breed of the Rhouse among them. As in Arabia, horses are possessed by them in partnership; they divide each horse into twenty-four shares or kerats (according to the division of landed property in Egypt, which is always divided into kerats), and such a one buys three or four or eight kerats of the mare, and shares in proportion in the benefits arising from the sale of the young breed. So little is known in Egypt among the soldiers of the true breed, that when in 1812 Ibrahim Pasha's troops took ten Koheyl horses belonging to Noteyn, the soldiers sold them among themselves like common Egyptian horses, while their former owners valued them at least three times that price. For 100 Spanish dollars a good cavalry horse can at all times be got in Egypt; the highest price paid for an Egyptian horse is 300 dollars, a Bedouin would never give fifty dollars for the same. The Mamelukes formerly esteemed the Koheyl of the desert, and went to considerable expense in propagating their breed in Egypt. The present masters of this country have not the same passion for fine horses as their predecessors, who had in many respects adopted Arab notions, and had made it a fashion among them to acquire a complete knowledge of horses, and to keep their stable upon a most extravagant establishment.*"

"The Bedouins use the horses of the Rhouse exclusively as stallions. The finest horse born of a mare belonging to a race which is not comprised within the Rhouse, would, notwithstanding its beauty and perhaps superior qualities, never be admitted as a breeder. Savud, the Wahabee's chief favourite mare,† which he constantly rode on his expeditions, and whose name, Reraye, was become famous all over Arabia, brought a horse of very superior beauty and excellence; the mother, however, being not of the Rhouse, Savud would never permit his people to use that horse as a stallion, and not knowing what to do with it, as Bedouins, like the Lybians, never ride horses, he sent it as a present to the sheriff.‡

"The Bedouins generally do not permit their mares to be covered until the completion of the fifth year; poor people who look anxiously forward to the profits to be derived from foaling, often have them covered after the completion of the fourth year. The price paid for the use of a stallion

possessed of his horse's pedigree; while on the other hand, in the interior itself, he would laugh at being asked for his mare's pedigree."

* "In Redjed, the Nadaba and Dahma are much esteemed. The breed of the Messena of the Koheyl races serves in Redjed never as a stallion."

† "Savud bought her from a Bedouin of the Arabs Kahtan for 1500 dollars."

‡ "A troop of Druves on horseback attacked in the summer of 1815 a party of Bedouins in the Homran, and pursued them to their encampment, when they were in their turn assisted by a superior force, and all killed, excepting one, who fled. He was pursued by one of the best mounted Bedouins, but his mare, although fatigued, kept up the run for several hours, but could not be overtaken. Before his pursuer gave up the chase, he cried out to him, promising him safe conduct, to beg to be permitted to kiss his excellent mare upon her front. Upon his refusing, he at last left the close pursuit, and in blessing the generous beast, cried out to the fugitive, "Go and wash the feet of your mare and drink off the water." This last expression is much used by the Bedouins to show the great love they bear to their mares, and the obligation under which they are to them."

covering a mare is one Spanish dollar. The master of the horse has a right to waive the payment of the dollar, and may take his chance to wait until the mare foals; if she throws a filly, he is entitled to a young female lamb of one year of age; if she brings a foal, he takes a similar male camel in payment of the use of his horse. When a horse is born, the Bedouins never let it drop down to the ground, but receive it upon their arms out of the womb of the mother, and keeping it for several hours upon their arms, occupied in washing it, in stretching and strengthening its limbs, and hugging it like a baby. After which they put it down and watch its feeble steps with particular attention, prognosticating from that movement the virtues or defects of their future companions. The people of Medjid feed their horses regularly on dates. At Deyrach, in the country of the Flassae, dates are mixed with the dried clover (*bisseem*;) and given them in food. Barley, however, is the most usual food in all parts of Arabia.

"The wealthy people of Medjid frequently give flesh to their horses, raw as well as boiled, together with all the offals of their table. I knew a man at Hamah, in Syria, who assured me that he had frequently given his horses washed meat before a fatiguing journey, to make them endure the journey with greater facility. The same person related to me, that being apprehensive of the governor of the town taking a liking to his favourite horse he fed it for a fortnight exclusively on roasted pork, which increased its mettle to such a height, that it became absolutely ungovernable, and could be no longer an object of desire to the governor. I have seen vicious horses in Egypt which were apt to bite, cured of this vice in presenting to them, while in the act of doing so, a leg of mutton just taken off the fire, the pains the horse felt in biting through the hot meat, made it give up that trick after a few repeated lessons. Egyptian horses are much less soft in their tempers than Arabian;* they are often vicious, while the latter almost never are, and require to be constantly tied, while the Arabians freely walk about the encampment like camels.

"Egyptian grooms are famous all over the East for the treatment of horses, so much so that the Pashas and grandees all over Asiatic Turkey make it a rule to have always a couple of them in their service. They curry a horse three or four times a day, and make themselves so busy about it, that it is against law in Egypt to have as many grooms as horses in the stable, every one of the former having the care of one horse. The Wahabee chief, who has no doubt the finest stud of horses in the whole East, never allows his mares to be mounted until they have completed their fourth year.† The common Bedouins frequently ride their own before they have completed the third. The Wahabee chief has prohibited his Arabs the selling of one-third of a mare, as is frequently practised among the northern Arabs, alleging that the custom leads often to unlawful and cheating tricks. He permits the selling of one-half of the mare."

* "The Arabs have the Prophet's saying continually in their mouths, 'Good fortune rests upon our noble horses.'"

† "The tail is never left to grow at full length until the horse or mare has completed the back teeth. The back teeth are counted with the mare up to the fifteenth year."

ON THE EXPEDIENCY AND EFFECTS OF GRAFTING.

Grafting is a very ancient custom, as we read of it in very early writings. It is more than probable that it was first practised in the cultivation of fruit-trees, to perpetuate a favourite kind which could not be propagated with certainty by sowing the seed. All the wild originals of our gardens and orchard fruits have been, by accident or continued culture, changed from comparative worthlessness to valuable products, in size as well as in quality. In the accomplishment of these results, the art of grafting has been mainly instrumental; for by transferring a shoot of an improved variety to the young stem of a kindred seedling, the true kind was thereby obtained, and in any desired number.

The advantages of grafting are manifest, and its effects upon the constitutional habit of both graft and stock are various, and form a valuable portion of the cultivator's knowledge. It is a subject well worth inquiring into, as it may lead to a right understanding of the operation itself, as well as to the attainment of those advantages which may be derived from a proper choice of the graft and stock.

We may first premise, that experience has taught us that a perfect union by grafting can only take place between congenial natures. Two individuals of the same genus of plants, and in some instances two individuals of the same natural order, which the improved science of botany hath associated, will unite by grafting, and become one tree. We may next premise, that almost all plants, and certainly all fruit-trees, have to pass through a season or stage of adolescence, during which they are naturally barren. If a cultivator intend to raise a fruit-tree from seed, he must wait with patience until a stripling arrives at a mature age, before he can expect it to bear fruit. In this case, the advantage of grafting a mature part of the head of an old tree upon the vigorous stem of a young one, is very obvious; because its period of youth is much curtailed, or wholly disappears, as grafts have been known to bear fruit in the first year. This, however, but seldom happens, nor indeed is it to be wished, as no fruit-tree should be allowed to bear before it has acquired a reasonable size of head.

Besides the advantage of transferring aged and mature wood to young stocks, the operation has another effect, which is equally serviceable to the cultivator, and that is, its tendency to check luxuriant growth—a circumstance which renders the grafted tree at once more dwarfish and more fruitful; and as these circumstances are usually consequences of each other, it is an improvement clearly attributable to the operation of grafting.

The practicability of grafting, as well as budding, depends on the readiness with which the elements of the scion and stock unite; the living members of both being placed in close contact at the season when both have begun, or are about to begin, to swell under the flowing sap, instantly coalesce. If the scion and stock be nearly of a size, the junction becomes so complete, that in a few years it is scarcely discernible, more especially if both are equal in habit of growth or membranous structure; but if one be of a grosser habit and ranker growth than the other, they increase in diameter unequally. If an apple scion be grafted on a white-thorn, or a pear on quince stock, the grafts in both cases are engrossed much faster than the dwarfer-growing stocks: of course the junction is always apparent, and sometimes extremely unequal; for though there is a free inter-communication of the sap, the specific difference of the woody structure or vascular fabric being unlike, causes the difference in the diametric bulk.

On examination of the grafted part of a stem of several years' growth, by cleaving it perpendicularly, or cutting through the graft transversely, we see that there is an intimate union between the layers of wood which were about to be formed when the operation was performed, and of all the subsequently formed layers of both; but between the wood of the graft and stock which was formed before the performance, though closely and soundly adhering to each other, there is a visible division, marked by a brown line, where the two surfaces made by the knife were joined. The union of these is, however, no more than a simple adherence by means of secreted sap acting as a cement, but not certainly by any interjunction of the woody fibres.

Another advantage arising from the practice of grafting, is the certainty of perpetuating the true kind of fruit: for although it has been affirmed that the qualities of pears are deteriorated by being grafted on the quince, and that some sorts of apples are impaired in quality, and altered in colour, by being worked on certain stocks, such reports have not hitherto been confirmed; and, therefore, it appears that whatever may be the state or quality of the sap, as supplied by the roots of the stock, it very soon becomes assimilated to that of the graft, if indeed any assimilation at all be necessary.

A good deal of skill is, however, necessary in adapting the scions to proper stocks, in order to assist diminutive growth, by placing on strong-growing stocks, or the reverse. The habit or manner of growth of the tree whence the graft is taken, is conveyed along with it; and not only the permanent habit, as is exemplified by the weeping-ash, but accidental flexures which sometimes occur in upright-growing trees, if these bowed shoots are used for grafts, and it is very likely the future shoots from that graft will be also drooping, or unusually bent. We have elsewhere remarked that this circumstance happens sometimes in working the Jargonelly pear. This tree, in favourable situations, is sometimes apt to produce very strong summer shoots, which, from the weight of their foliage, or some other cause, droop downward in a waving direction. These, if used for grafts, make very unsightly maiden plants, and afterwards require much training to get them into shape and moderate growth.

Any other peculiarity of growth or habit of the mother-tree is certainly conveyed along with grafts produced by it; and, moreover, it has been said that, not only disease, but even the age and decrepitude of the parent, are conveyed to the young trees raised from its shoots.

This idea was first promulgated by T. A. Knight, Esq., President of the Horticultural Society of London, and from a belief that young trees actually inherited the infirmities of their aged parents, which accounted for the general failure of apple-trees that happened about the time that gentleman wrote his "Treatise on the Apple and Pear" (about 1795).—To strengthen his opinion, he argued that, as these fruit-trees are only *varieties*, they had, as such, only a limited period of life; and when that period had elapsed, the whole of any given variety, old, and young, and middle aged, dropped to decay together.

These new doctrines produced a strong sensation, particularly among nurserymen who happened to have large stocks of the proscribed varieties; and so feasible were Mr. Knight's representations, that many acted upon them in so far, that they preferred to plant the newest sorts rather than the old ones. The circumstance which suggested the idea to the worthy president was not only apparent in Herefordshire, but, at that time, all over the kingdom. The

old golden pippin, the styre, and fox-whelp, were failing in all directions around Mr. Knight's residence, in Herefordshire, and adjoining cider countries; and the first of these, a great favourite everywhere, became almost barren, and was visibly failing all over the kingdom.

We well remember discarding and throwing out a good many Golden Pippin trees about that time, which had been planted for five or six years, without making the least progress in growth, but rather declining. Two of these outcasts being planted in a new shrubbery then making, (the ground having been deeply trenched,) grew away surprisingly in their new place, became abundantly fruitful, and are now large and healthy trees.

This result showed that there was no constitutional decrepitude or irrecoverable decay in this variety of apple; and the same results having happened to other planters who had planted the proscribed sorts on properly prepared ground in different parts of the kingdom, the impression against them wore off, and now it is almost forgotten.

It is quite true that nurserymen have no credit, nor the trees they sell approved, if the buyers only stick them into a round deep hole in an old orchard or garden without other preparation. This mode of forming or replenishing orchards was very common, both before and since the period alluded to. A person resolves to make an orchard of one of his meadows; he digs ranks of holes, buys standard trees, puts them in, relays the turf, stakes and bushes the stems to keep off sheep, and bids "God speed." The consequence of such a proceeding is, that the trees, from being so carelessly treated, become stunted, and at the end of five or six years, perhaps, are less than they were when planted. We make this observation because we know that the failure of new orchards so planted, was accounted for, and the mismanagement excused, on Mr. Knight's principle—viz. that the kinds were "worn out."

But we know well that Mr. Knight's ideas respecting new varieties of plants, herbs as well as trees, are not altogether erroneous. We have written something on this subject in our last number, at page 322; and we are quite convinced that, in the first years of the existence of a new variety of a plant, it grows with greater vigour than it continues to do after it has become an old inhabitant of any one place. In this opinion Mr. Knight was perfectly right; and it may have happened that many of the favourite varieties of apples being aged trees, presented a simultaneous decay, and so confirmed, while it sanctioned, the suggestion of the President.

Although it is our own opinion that disease, as the canker, and insects, as the American blight, may be carried by the graft from old to maiden plants; yet we believe that, if a perfectly mature and healthy scion, cut from the top of an old tree, be inserted on a suitable and healthy stock, the future expansion of the graft will be as free from decrepitude (except only from the effect of working) as the first shoot which rose from the original seed.

We may now allude to other effects of grafting. If a strong and rampant-growing kind of tree be engrafted upon a weakly growing stock, the latter will be much engrossed in the structure of its roots; and if a tree having numerous and attenuated spray, be placed on the same kind of stock, the future roots of the stock will be proportionably subdivided and unusually fibrous—a proof that there is an intimate connexion between the branches and roots of trees, and that the demands of the former impose their manner of expansion upon the latter.

We may also notice a remarkable circumstance

which accrues from the kindred operations of grafting or budding, viz., a variegated species worked on an unvariegated one, will be accompanied by variegated suckers rising from the unvariegated root. This shows to a certainty that there must be a subsidence of somewhat from the graft to the stock; but what that may be, is not so easily explained. Mr. Knight, and several other very eminent vegetable physiologists, maintain that no part of the graft ever extends itself down from the point of junction with the stock: indeed, this is evident to any one taking the trouble to dissect the parts at any time after the operation is performed. But then the question recurs—What else can convey the discolouration of the leaves and bark of the graft, to those of the suckers so far below? If the variegation of leaves and bark be what it is considered to be—namely, an accidental inherent *disease*—the malady may be extended or communicated by the admixture of the sap, or by a downward contamination of the cellular membrane; but whether by the one means or the other, is a doubtful question, although the fact itself is unquestionable.

As fruit trees are rarely fertile till the vigour of youth is moderated, and some varieties are always too luxuriant to be good bearers, working them upon others of more diminutive habit may effect valuable improvements, whether the strong be inserted on the weak, or *vice versa*. Double-working fruit trees certainly induces moderate growth and consequent fruitfulness; and it is an expedient which is not so much had recourse to as its importance to cultivators deserves.

Root-grafting is often practised, and is, or may be, of great service to the propagator of choice exotics, for which proper stocks cannot be had. A small twig of the head, placed on a spare root of the same, may raise another plant, which cannot be done perhaps by any other mode of propagation.

To show how necessary it is to be acquainted with the most suitable stocks for working fruit trees on, we subjoin a list of the proper stocks for the finer varieties of peaches, viz:—

Early Anne, Purple Alberge, White Magdalen, Millet's Mignon, Late Admirable, Incomparable, Scarlet Admirable, Smith's Early Newington, Red Magdalen, Montauban, Noblesse, Early Admirable, Old Newington, Old Royal George, Rambouillet, and Catherine, are all sorts which take and grow best on the *Muscle Plum*; and the following do best on the *Brompton Stock*, viz:—

Avant Rouge, Pourpre Hative, Belle Fauce, Early Galland, Belle Cheverreuse, French Mignon, Grimwood's Royal George, Kensington, Double Montagne, Superb Royal, Barrington, Bourdine, Bellegard, Chancellor, Late Purple, and the Titon de Venus.

Many other kinds of fine plums, pears, apples, &c., require peculiar stocks, to which we shall have occasion to revert at some future opportunity.—*Horticultural Register*.

When a plan for forming a company for manufacturing sugar from Beet-root was submitted to the agriculturists about twelve months since we cautioned them against expending their capital upon any such scheme. Many well-intentioned individuals have since been and still are urgent in recommending it as calculated to produce great benefit to the landed interest. The danger of intro-

ducing such a manufacture upon an extensive scale, and unless extensively cultivated it could be productive of no material benefit will be seen by the subjoined paragraph. The duty on colonial sugar forms a large item in our revenue, and there is no doubt but that a diminution of that branch of the revenue would lead to the same results as are here apprehended.

“PRAGUE, March 20.—Reports are in circulation, which make a great sensation among the merchants and landowners. It is affirmed that the Chamber of Finance suffers very severely from the diminution of the receipts of customs, which here, as in France, is the natural result of the manufacture of sugar from beetroot, and it has resolved to reduce the import duty on foreign sugar from twenty florins to four florins per cwt. As such a measure would be a death blow to all the manufactories of beetroot sugar, which even in the present state of things find it difficult to support the competition, we scarcely give great credit to such a report.”

A Correspondent points out the following errors in the system of management in the county of Sussex, and solicits answers to the queries attached:—

1. It is usual to broadcast the wheat, by which two bushels per acre more are used than if dibbled, which two bushels at the present prices would give for labour 15s per acre, a sum frequently equal to the whole rent of much of the land, and this grain not being well covered feeds hedge birds, which prey on the following crop, and to destroy which premiums have been offered in Scotland. Qy. How much do these birds destroy?
2. Keeping a third or half more horses than are wanted, each of which consumes as much as a labourer and his family.
3. Neglect of weeding the land as is apparent by the quantity of weeds found in the straw. Qy. How much do the weeds lessen the crop?
4. Waste of manure in open farm-yards, where its nutritious properties are washed away by the rain.
5. Paying any labour by the day, which can be paid by measure.
6. Letting cattle in wet weather eat with five mouths, that is, poach the land.
7. Qy. How much might be gained by giving the food now raised for useless farm horses to oxen stall-fed as in Scotland, Holland, and Germany, and which would cause a great increase of work for labourers?

The most extraordinary and complete five-year-old real Down wether sheep, for smallness of bone and thickness of fat, ever remembered in Bury market, was shown for sale on Saturday se'nnight, by Mr. Woollard, butcher of Pakenham. It was grazed by Mr. Roper, of West Dereham, Norfolk, and was raffled for at the Fox Inn, Honington, on Thursday last, in twenty-four shares, and won by Mr. Diggon, jun., of Thetford. The sheep weighed 40lbs per quarter, and the fat measured on the neck 6½ inches, and on the loin 6 inches. The shoulder weighed 20½lbs.

GREYHOUND.—(Plate.)

We feel extremely happy in being able to place before our readers a remarkably well engraved and very correct likeness of a very beautiful greyhound bitch, Marcia, belonging to that genuine sportsman, W. Loft, Esq., of Trusthorpe, near Alford, Lincolnshire. We must embrace the present opportunity of acknowledging our obligation to that distinguished artist, Mr. Stafford, from whose admirable painting our present embellishment has been taken.

The form of Marcia, as our readers will perceive, is as nearly perfect as possible; colour white, with a black ear: she unites the very best blood the world ever saw, being got by the celebrated Lochinvar out of a daughter of the still more celebrated Snowball.—“Can Bourbon or Nassau go higher?” Yet, notwithstanding the symmetrical beauty of her form, and her very high breeding, Marcia is more remarkable as the dam of superior greyhounds, than for her own individual performances. Amongst her produce may be enumerated eight very distinguished public winners:—namely, Mr. Best's Tibby, Lubin, Wasp, and Venus; Mr. Loft's Mantle, Mack, Madge, and Marquis: being four winners of Cups, two of St. Leger Stakes of 65 sovs. each, five of Sweepstakes, and two of second prizes: at the following meetings—Louth, Malton, Isley, Letcombe Bowers, and Barton.

In speaking of the Greyhound, coursing naturally enough presents itself to the mind; and we cannot refrain from observing, that coursing has become general from one end of Great Britain to the other; and such has been the emulation of sportsmen in breeding dogs for this pursuit, that the greyhound of this country may be said to have attained perfection. The rough wire-haired animal of this name, so common some years since, if he has not entirely disappeared, is very rarely seen, even in those parts of the kingdom where he continued to be held in estimation long after the fame of his improved competitor had been established. Lancashire might be regarded as his last hold; but here he has faded into nothingness, and a breed of greyhounds has been introduced inferior to none in the world. The modern greyhound is the most elegant of the canine race; but at the same time it must be admitted that, on the score of sagacity, he is inferior to every variety of his tribe.

FROST UPON FRUIT TREES.—A correspondent of the *Gardener's Gazette* says:—“At this season of the year, when the young blossoms of wall fruit and standard fruit trees are liable to be cut off by what is commonly denominated white or hoar frost, perhaps the knowledge of the French method of protecting trees from such injury may prove acceptable:—If a thick rope be intermixed among the branches of a fruit tree in blossom, the end of which is directed downward so as to terminate in a pail of water, should a slight frost take place during the night, it will not in the slightest degree affect the tree, while the surface of the water in the pail which receives the rope will be covered with thin ice, though the water placed in another pail by the side of it, by way of experiment, may not, from the slightness of the frost, have any ice on it at all.

AGRICULTURAL PREMIUMS,

OFFERED BY THE HIGHLAND SOCIETY OF SCOTLAND
IN 1837, AND OPEN TO THE WHOLE OF THE UNITED
KINGDOM.

CLASS 1.—500*l* for the first successful application of steam to the cultivation of the soil, viz:—The operations of ploughing and harrowing as well as now performed by animal labour.—A silver medal for any improvement or invention applicable to husbandry or rural economy; a model to be sent to the society.

CLASS 2.—50*l*, or plate to the value, for the best geological survey of any district in Scotland, (except Berwick, Lower Moray, Renfrew, and North Ayrshire) being a surface of not less than 200 square miles.—30*l* for the best geological report on any coal district in Scotland; secondary premiums of medals for the same.—The gold medal for the best report of metals which might be profitably worked, to be sent in by Oct. 20.—Gold or silver medal for best account of remains discovered in peat moss in Scotland.—20*l* for best essay on the threshing machine.—20*l* for best account of comparative merits of keeping farm horses on usual food, or on that differently prepared.—20*l* for best practical essay on management of sheep with a view to improvement of the fleece.—Silver medal for best account of experiments on the employment of fibres of cheap indigenous vegetables in paper making.—20*l* for best account of insects injurious to vegetation.—Gold medal for the best essay on the construction of water reservoirs for agricultural purposes.—Gold medal for the results of most extensive experiments to ascertain whether there be any anatomical peculiarity which renders some neat cattle disposed to fatten early.—Gold medal for an exhibition in 1838, at Society's show, of three oxen with short and three with long feet fed in the same manner.—10*l* for the best essay on the most successful mode of preserving potatoes.—10*l* for the best essay on domestic dyeing.—Gold medal for the best essay on effects of woods or climates.—Gold medal for the best essay on subsoil and trench ploughing.—10*l* for best practical report on irrigation.—20*l* for best essay on forest planting.—Gold medal for the most satisfactory account of the herbage on mountainous sheep pastures of Scotland.—20*l* for the most approved specimen of sheep salve.—15*l* for best account of extirpating farms from pastures.—Gold or silver medal for best accounts of useful practices in rural or domestic economy, adopted in foreign countries.

CLASS 3.—Gold medal to proprietor or tenant for most satisfactory report of improvement of waste land by tillage, not less than 100 acres, within five years, before Oct. 10.—Gold medal, ditto, for pasture.—Silver medal, for having reclaimed not less than five acres from the sea within five years.—Silver medal, for best report of river embankment in Scotland.

CLASS 4.—Silver medal for best account of any new plants adapted to field culture.—7*l*, 3*l*, and 2*l*, for heaviest early Angus oats not less than 40lbs per bushel, crop 1837, district Strathspay.—Silver medal to the successful candidate at any ploughing match (provided 15 ploughs start), upon certificate of one or more members of the society attending the match.

CLASS 6.—Nine premiums for bulls and quays, from certain districts in Scotland, amounting to 46*l*.—25*l* for best stallion, 10*l* for best mare, and 10*l* for best native colt from certain Scotch districts.—6*l* for 6 best tups (blackfaced breed), 4*l* for 2nd best ditto, 6*l* for best pen of 18 ewes or gimmers (blackfaced),

4/ second best ditto, from certain districts in Scotland.

CLASS 7.—Four premiums (amounting to 16*l*) for best specimens of improvement in breed of swine.—15*l* (in 4 premiums) for best specimens of butter, from certain Scotch districts.—15*l* for specimens of improved cheese making.

CLASS 8.—2*l* for best kept cottage in each of the districts of Lanark, Fife, Mid-lothian, and Selkirk.—1*l* second best ditto.—1*l* best kept cottage garden in each parish.—10*l* (in 4 premiums) to cottagers raising greatest number of hives of bees, in Orkney, Zetland, Selkirk, and Peebles.

CLASS 9.—Gold medal to proprietor who shall have planted trees in five years to greatest extent, not less than 500 acres.—Gold medal to any proprietor for best practical report on the planting and fencing of land.—Silver medals for best accounts of native Scotch fir woods.—Gold medal for having sown in five years greatest quantity of seeds of the Scotch fir, not less than 1500*lbs*.—Gold and silver medals for other improvements in Scotch planting.

CLASS 10.—General show of Stock at Dumfries in 1837.—20*l* best bull calved since Jan. 1, 1832.—10*l* 2nd ditto, 10*l* best bull stirk calved since Jan. 1, 1834; 2nd ditto 5*l*; 7*l* best fat ox calved since Jan. 1, 1833; 10*l* best 2 spayed heifers calved since Jan. 1, 1834; 7*l* best single ditto, calved since Jan. 1833; 10*l* best breeding cow, calved before Jan. 1835; 2nd ditto, 5*l*; best 2 queys, calved after Jan. 1, 1835, 10*l*; 2nd ditto, 7*l*; 3d ditto, 5*l*; 10*l* best lot of stirks calved after 1st Jan. 1836, not fewer than 4; 2nd ditto, 5*l*; all of the above to be of the Galloway breed.—10*l* for best fat ox calved since Jan. 1833; 2nd ditto, 7*l*; to be of the Aberdeen breed.—20*l* for best bull calved between Jan. 1, 1832, and Jan. 1, 1835; (silver medal to breeder); 2nd ditto, 10*l*; best bull stirk calved since Jan. 1, 1836, 7*l*; best cow, any age, 10*l*; best fat ox, calved after Jan. 1, 1835, 7*l*; best heifer calved after Jan. 1, 1835, 7*l*; best heifer ditto, 7*l*; all of the short-horn breed.—Best bull calved between Jan. 1, 1832, and Jan. 1, 1835, 15*l*; (medal to the breeder); best bull stirk calved since Jan. 1, 1836, 5*l*; best milch cow, calved before Jan. 1, 1834, 10*l*; 2nd ditto, 5*l*; best 2 queys, calved since Jan. 1, 1825, 7*l*; 2nd ditto, 5*l*; all of the Ayrshire breed.—10*l* best fat ox, and 5*l* second best of West Highland breed.—Best fat ox, any breed, calved since Jan. 1, 1833, 10*l*; breed and age to be specified.

HORSES.—20*l* for best stallion, for improving breed of draught horses: 20*l* for best ditto for breeding coach or chariot horses: 10*l* for best mare for breeding draught horses: 5*l* for best three years old draught gelding: 5*l* for best three years old filly.

SHEEP.—10*l* best tup not above five years old, of the new Leicester breed; 2nd ditto, 5*l*; 5*l* best pen of 3 ewes not exceeding four years old; 3*l* best pen of 3 fat wethers, not more than 20 months old; all Leicester breed. Best 3 tups not more than 43 months old, 10*l*; 2nd ditto, 5*l*; best 10 ewes, not more than 6 years old, from a breeding stock of not less than 200 rearing lambs of that season, 10*l*; 2nd ditto, 5*l*; best pen of 10*l* gimmers, 5*l*; best 5 fat wethers, not exceeding 56 months old, 5*l*; ditto, ditto, 32 months, 5*l*; all cheviot breed. Best 3 tups (black faced) no more than 43 months old, 10*l*; 2nd ditto, 5*l*; best 10 ewes not exceeding 6 years old (black faced) 10*l*; 2nd ditto, 5*l*; best 10 gimmers ditto, 6*l*; best 5 fat wethers not exceeding 56 months old, 5*l*; best 5 ditto not exceeding 32 months, 5*l*. The following for the cross-breed:—best 5 fat wethers between cheviot ewes and Leicester tups, 5*l*; 2nd ditto, 3*l*; best 5 fat wethers, between black

faced ewes and cheviot tups, not exceeding 20 months old, 5*l*; best 5 fat wethers (any cross) 5*l*; best 10 lambs (cheviot ewes by Leicester rams), dropt since March 1837, and shown by breeder, 5*l*; best 10 lambs (black faced ewes by Leicester rams,) dropt since March 1837, shown by breeder, 5*l*; best 10 lambs (from cheviot or black faced ewes by any other than Leicester rams) dropt since March 1837, the ram to be shown, 5*l*.

SWINE.—Best boar, 1 to 4 years old, 8*l*; 2nd do, 5*l*; best breeding sow ditto, 5*l*; 2nd ditto, 4*l*; best two pigs not exceeding 40 weeks old, 5*l*.

For extra stock of any kind, not shown for any of the above and not exceeding in one lot 5 cattle or 10 sheep, and for implements of husbandry, roots, &c., medals or money will be awarded to the amount of 70*l*.

WOOL.—Best 7 fleeces of combing wool, 5*l*, best ditto (short wool Cheviot breed) 5*l*; best ditto (black faced breed) 5*l*. Competitors to state number of sheep from which sample is taken and the price obtained if sold, and must have bred the sheep.

GENERAL REGULATIONS.—The competition will take place at Dumfries in September or October; the particular day to be hereafter intimated, and to be open to stock from any part of the United Kingdom.

CONSULTATION RESPECTING SHEEP.

(From the Veterinarian.)

DEAR SIR,—A friend of mine, a very extensive farmer and grazier, residing on the banks of the Onse, a low and marshy district, has had the misfortune to lose many of his sheep for some years past, in the spring and autumn, from some fatal disease. By examining two or three after death, I found it be Pleuritis. There was nearly a quarter of an inch thickness of coagulable lymph on the whole surface of the pleura, and between its layers more or less serous fluid. The substance of the lungs was free from disease, as were all the other viscera.

This disease has been confined to the well-bred sheep, and Mr. ——— never saw it in his coarser skinned sheep: so fatal, however, has it been in the pure Leicester, that he cannot any longer breed them *pure*; he now mixes them with Half-Lincoln. These do not escape; within the past week many have died. Mr. ——— has observed, that the malady has been more prevalent when the sheep have been placed upon rich food, such as cabbage and turnips: it is seldom seen when they are kept on grass or dry food. The treatment that has been adopted from time to time has been attended with no good effect; in fact, it has been directed by no very defined indication, except that of bleeding the whole flock when any case has been suspected; and, when the animal is actually seized, bleeding again. Only one sheep ever recovered, and that was kept in a constant state of faintness for two or three days by repeated bleedings.

We feel very anxious that a more effectual mode of treatment should be adopted, for many of the sheep are of the greatest value. I occasionally had the pleasure of hearing your lectures at the University, and therefore feel desirous of having your opinion, especially as I find from my friend Mr. ———, of this town, that you are about to publish on the diseases of the sheep. He saw two or

three of the sheep this morning, and can therefore better describe to you the symptoms.

Symptoms as described by Mr. ———.

Pulse very quick and hard; breathing difficult; countenance dull; the head in a declining position, with the nose forced against the ground; bowels more than usually constipated; the membranes of the eyes and nose red; low and short cough; almost always lying down; when moved, indicating much pain, and making a grunting noise. In one of the sheep there was a discharge streaked with blood from the nose.

EXTRACT FROM REPLY.

MY DEAR SIR,

* * * * *

Do you not see at a glance the whole history and mystery of the matter? Your friend is an ardent admirer of the Leceister breed of sheep; I can forgive him that. He has fully developed that propensity to accumulate flesh and fat which is the distinguishing, the invaluable property of that breed: but he is not satisfied with developing this so far as it is necessary for *any useful purpose*; he must outdo all his neighbours. He must urge his flock on to that condition in which, indeed, they look beautiful to the eye, and add, I have always maintained undeservedly add, to the reputation of the breeder; but in which he forgets, or is not aware that he places them in a state of dangerous plethora, where there is but a step between them and death. There needs but a little increase of nutritious food—there needs perhaps but the addition of a quarter of a mile's walk—there needs but some unknown atmospheric agency to derange the labouring circulation, and the weak point is found out in a moment. The blood is determined to or congested in the head, or the lungs, or the pleura, or the peritoneum, and the animal dies without the possibility of reprieve.

"No," says your friend, "I do not do this either." Yes he does, and too often; and then he attributes it to the very convenient term *Inflammation*. There is scarcely a year that at the Smithfield prize-show I do not hear a dozen farmers, at least, complain that they have not been able to compete in this sweep-stake, or for that prize, because they have lost many sheep from *Inflammation*. "Pshaw!" I always interfere when I have any previous acquaintance with them, "you murdered them, and I do not pity you a bit; you half deserve hanging yourselves."—This is a bitter pill, and they do not like the doctor for administering it.

"No, no," says your friend, "I do not do this; Mr. Y. is quite mistaken;" and "so say all of them."

Then I will tell him what he does; he diligently cultivates a breed of sheep that has a faculty almost beyond conception of turning nutritious food into blood. Put a Leceister sheep on good or too good pasture, at least as compared with that from which he is taken, and I dare not say in what small a space of time, and before his appearance of condition is much altered, the quantity of blood which flowed through his veins is in a manner doubled. What is the natural, the frequent, the almost necessary consequence of this? He thinks that it is the fat sheep alone that can die plethoric; but I will tell him there is equal, perhaps greater, danger with regard to these fast blood-making sheep, if the pasture is incautiously and too rapidly changed, when they are in common store condition, than when they are somewhat oppressed with fatness. In the latter case, they die of

apoplexy; in the former, of inflammation, of every kind.

Therefore, as to your friend I have scarcely a word to say to him about medicines. If he has been in a little too great a hurry, the lancet and the Epsom salts are very good things, and I can add nothing to them. Let him go back again to his half-breds; let him go back again, if he pleases, to his pure Leceisters; and if he, although perhaps an experienced breeder, will take the advice of a poor veterinary surgeon who has hitherto been supposed to know nothing about the matter—(what do not our established veterinary instructors deserve when this is the case? and shame on the agricultural interest generally that suffers such a state of things to be)—I will promise him that his losses, if not quite arrested, shall be very much limited.

Let him abate a little of his emulation on points of no practical importance. Let him give greater scope to that which is connected with his own and with the national prosperity. Let him diligently cultivate that breed of sheep which *on his land* he can most quickly and most cheaply bring into marketable condition. When he changes his pasture from a tolerable to a forcing one, let him be more cautious than farmers generally are—let them first go on their *cabbages* or their *turnips* for not more than two or three hours a-day—let the time be very gradually extended: and, when the day is spent on them, let it be a short one—the opening of the fold a little later, and the return to it a little sooner than usual.

If, still, he is making more haste than good speed, the lancet and the *Epsom* salts are, I repeat, very good things, and so is old John Lawrence's digesting ground—a pasture tolerably bare, and where the sheep must work somewhat hard for a belly-full. He may depend upon it, that food, *too much and too good food*, lies at the bottom of the whole. As to the pleurisy which you so accurately described, there may be something in your friend's "low and marshy ground" which predispose to pulmonary complaints, oftener however to hepatic ones. Where cough is perceived, the lancet may be had recourse to if that cough is violent, and *Epsom* salts (the dose two ounces) and followed by doses of pulv. digital. ʒss, potassæ nit. ʒi, flor. sulph. ʒj mixed up with a little gruel, and given daily, or twice in the day, in bad cases; but I have far more faith in the preventive which I have pointed out.

And now, my dear Sir, I have seemed to neglect you, and perhaps I have added to the offence by lecturing your friend at some length. I cannot help it. I have the pleasure of recollecting you at the University; and I trust that you will believe me to be—Very faithfully yours,

W. YOUATT.

BEEET-ROOT SUGAR.—A new process has been discovered at Strasburg by means of which a white crystallised sugar is produced in twelve hours from beet-root, and which does not require any further refining. This invention is the more curious, as neither any acids or chemical agency is employed in this remarkable operation, and the use of animal blood is entirely dispensed with. It has also the advantage of saving 25 per cent. in the consumption of fuel. The new process is applicable in all the present manufactories of sugar, with the exception of those upon the principle of desiccation of the beet-root. The inventor is M. Edward Stolle, who though not more than 24 years of age, is already highly distinguished for his experiments in chemistry, and his works in polite literature.

THE CURRENCY.

TO THE EDITOR OF "THE MARK-LANE EXPRESS."

SIR,—The object of my letter inserted in your paper 27 ult., was to express regret that in alluding to the subject of currency, you sometimes used language not quite consistent with the acknowledged right of individual formation, and expression of opinion, which is, indeed, the birthright of Englishmen. I quoted a passage or two, wherein you speak of fallacious theories propounded by political partisans—of "the sophistry of self-interested individuals," &c., &c.; and I could not help stating the impression on my mind, that you wished to stifle the subject of currency. In your remarks on my letter, you allude to the latter, and blame me for "indulging in the same strain of imputation," as that of which you had complained in others. You think me unjust, but I appeal to the whole tenour of your observations on the subject of currency. In your remarks on the Central Agricultural Society (27 ult.) you observe "the state and welfare of agriculture is unworthily represented in London" by that society—because, you say, they ring the changes on "currency,"—"substituting a silver for a gold currency"—"prices above the level of the standard of value." You say, "it would be difficult to find much analogy between the interests of agriculture, and the topics which are the constant theme of the London Association." This, however, is matter of opinion, and if such be their themes, I must beg leave to differ from you on this point entirely, as many others will do.—Further, you assert that "many (of them) must know that they are giving vent to fallacies." I ask, is not this "indulging in a strain of imputation?" You say, "the members of the London Association rest the salvation of the tenant farmers" on the "crude absurdities of the currency". Now what "crude absurdities of the currency", the society may hold, I know not, having no connexion or communication with them; but I rejoice that they discuss the subject, because, I think it of vital importance to farmers, and to the productive classes generally.

I assure you, Sir, that I am no "free trade theorist in disguise;" and that I do not wish to abolish the corn laws, by attempting to persuade farmers that *no* benefit is derived from them. To abolish them, without an equivalent by a change in the standard of money, would, in my opinion, be the ruin of agriculture, as I have uniformly maintained; particularly in a letter, in reply to Earl Fitzwilliam's Second Address to the Landowners, inserted in the Morning Chronicle, 24th of Nov., 1835, under the signature of *Terre Filius*, and in two letters to Mr. Hume, published a little before that time, in Bell's Weekly Messenger, with the same signature. The first of these, if not the others, you did me the honour to copy into your paper; and the Editor of the Farmer's Magazine did the same. But although I think the corn laws necessary under the present standard, it does not follow that they might not be dispensed with altogether, if a more just and suitable system of money were established. Free trade in corn and in every thing else, being the natural order of things, it is very desirable, could it be obtained with safety. If the corn laws *should* raise the average price of corn considerably, without any increase in the means of paying for it, it would be a great evil to the consumers. I cannot help thinking, however, that all parties attach too much importance to corn laws—experience and reflection combine to convince me that they will *not* influence the average price much, situated as this country now is—with so great a portion of the population dependent on the export

trade, and the wages (the means of consumption) which that will afford them. These wages must always be low, *as measured by gold or silver*; they will exceed those of foreigners, only in the ratio, of our superior skill and other advantages. Mr. G. F. Muntz, of Birmingham, has thrown much light on this subject, by his evidence before the Lords' Agricultural Committee; he has there embodied ideas which had long been floating ("dimly seen") in my own mind.

Being, myself a "tenant farmer," I can have no objection to a rent adjusting itself to the amount of money the farmer is actually receiving; and if all things would adjust themselves in the same way, there would be no cause of complaint.

Your remedies seem to be a reduction of rent, and "superabundant produce" from the "redundant fertility of the soil," that the farmer may be "enabled to compete with low prices." But have we not had (through the bounty of providence) "superabundant produce," for several years past; during which time the distress was so great, that the cessation of all rent would not have cured it? And "superabundant produce" being accompanied so long by severe distress, the Central Society was instituted to seek the cause of the anomaly. They think that they have found it in the monetary system; and no wonder; for it is well known that for many years past, "money in the aggregate, had been rapidly decreasing in quantity, whilst the demand for it, represented by the quantity of goods in the market, has been rapidly increasing. Could any thing else follow from this, but a continuous increase in the value of money, compared with goods, that is a continued fall of prices—such as is proved in fact, by the price currents, to have really taken place. Producers have, all this time, been struggling to make up for their diminished profits, *by increased production*, unaware, that from the *limited stock of the medium of exchange*, every addition to the stock of exchangeable articles *must lower prices*, and occasion a farther fall of prices. Thus the reward of industry has been lessened by every increase of its exertions." (*Plain statement of the cause of, and remedies for, the prevailing distress, by G. P. Scrope, Esq.*)

The above quotation at the time (1835) applied generally—of late years, it has been peculiarly applicable to corn, because the produce of it has been increased by greater exertions, and by favourable seasons, and because the withdrawal of the one pound notes injured farmers more than any other class—considering all this, I ask, what benefit can the farmer expect, from increased exertions—from "superabundant produce"—or "redundant fertility of the soil," should he obtain a less aggregate quantity of money (as he has done) for his greater aggregate quantity of corn? Under such circumstances I must look to the *Central Society* for relief, rather than to *any other*. I, too, think that the *issues of Joint Stock Banks* did, for a time, "raise prices above the level of the standard of value" (of manufactured goods) but there is now a re-action. I hope you will yet redeem your promise (March 20th) of "exposing the fallacy" of this notion.

I am not for the "uncontrollable manufacture of paper, whether by private or Joint Stock Banks;" but I cannot imagine why "the adoption of the silver standard alone," should not "counteract the imprudence of Banking Establishments" here, as well as in the rest of Europe. But we might have a conjoint standard of gold and silver, as formerly. Any law, however, "which needlessly interferes with the supply of a sufficient circulation of paper—that is of credit, and which actually prevents the formation of

Banks on sound principles," should be revised. An instance of this is the law preventing the issue of notes of less value than 5*l.*, although one pound notes are permitted in Scotland, with safety and advantage. You are "aware" (you say) that neither the agricultural, commercial, nor manufacturing classes, can carry on business with advantage unless the circulating medium shall continue to expand in proportion to the demand for it." But you "hold it an axiom, that business should stimulate the increase of paper, not paper stimulate business." Now, I ask whether the population, "business," and produce of all kinds, have not vastly increased during the last seventeen years? and whether the circulating medium (instead of "expanding in proportion") has not been continually decreasing? As for the attempted "expansion" by Joint Stock Banks, that has ended in panic and re-action, as might have been foreseen.

I am, Sir, your obdt. servant,
 April 4th, 1837. T. F.

PUZZLE FOR THE CURIOUS.—If a person were to take a single wheat-corn in his pocket to market on New Year's day, and double the same every week for 52 weeks, or till New Year's day again, it would amount to more loads of wheat, 20 bags each, three bushels to a bag, than it would take bank notes to build a stack 25 times higher than the top of St. Paul's, London (supposing a stack could be built), reckoning the building 144 yards, and allowing 190 notes to an inch.—2*d.* After this was deducted there would be more loads left, 20 bags each, than any ten millers ever bought bags of wheat in their lives, allowing each to buy weekly 2,000 bags for 80 years.—3*d.* After this deduction there would be more loads, 20 bags each, remaining than it would take bank notes to cover 100 square acres of ground, allowing each note to measure 6 inches by 4.—4*th.* After this deduction there would be more loads left than the wheel of a coach would turn round times in a distance of 1,200 miles, supposing the wheel to measure 17 feet in circumference.—5*th.* This would leave more loads than it would take barleycorns to reach from Worcester to Alcester, a distance of 17 miles, allowing three barleycorns to an inch.—6*th.* This would leave more loads than it would, take tons of coal to supply the city of Worcester for 30 years, allowing 83 barge or boat loading to be brought every week for 30 years, and allowing each barge or boat to carry 60 tons, which would load 137,280 boats or barges 60 tons each.—7*th.* After these deductions there would be more loads left, 20 bags each, than it would take pounds to build sixteen County Courts, allowing each to cost 50,000*l.*—8*th.* There would be more loads remaining than it would take bags, three bushels each, to load 3,000 barges, allowing each barge to carry 500 bags.—9*th.* After all these deductions there would be wheat enough left to find 2,500 persons in bread for 66 years, allowing each person to eat annually nine bags. All the quantity of corn together would load 1,125,899 ships, 1,000 quarters each. The amount of all the number of corns is 4,503,599,627,370,495. Reckoning 500,000 corns to fill a bushel, is 9,007,199,254 bushels Number of bags, 3 bushels each, 3,002,399,751. Number of loads, 20 bags each, 150,119,967.—*Worcester Journal.*

AGRICULTURAL STOCK.—At a sale of stock, the property of Mr. Cavill, farmer, at Anlaby, on Monday week, an ox, four years old, and supposed to weigh 130 stones, was purchased by Mr. Denton, of Beverley, for the sum of 60*l.* A second bullock sold for 43*l.*; a twelve-month's old calf for 10*l.* 12*s.*; store pigs, all of which were exceedingly fine, fetched very high prices, as also did the horses. The whole of the stock was of a very superior description.

TO THE EDITOR OF THE MARK LANE EXPRESS.

"SIR,—I think you made a bit of a mistake in January last, or were misinformed, when you stated the snow was five feet thick in this neighbourhood—six inches would have been nearer the mark. I rode from hence to Sunderland, when we had the worst of it, about fifteen miles, in an hour and a half, nearly before day-break. I believe we have had more snow within the last fourteen days than we had at any time during the winter. From here to Edinburgh the country is all covered. The loss of sheep is very great; nothing can travel on the hills; one farmer near Dunbar lost 40 score of sheep in driving them from the high to the low ground, they were so weak they could not travel; and nearly all the sheep farmers are out of forage. The hills, commencing from the sea, running west, passing Edinburgh about sixteen miles south, are one mass of snow; Cheviot and the border hills are the same. In this county the loss of sheep must be very great; some farmers that had four to six years crop of hay, are now nearly done with it. To-day we have had a great deal of snow fallen. You may think my above six inches too little, but I can assure you it is not. The roads were a little blown up, where the adjoining fields were level, and the wind blew across the road, but when the wind was straight an end there was not the least stoppage.

I would not have noticed the snow storm, but I think you will do the country a great good, as well as the farmers themselves, if you will give them some good advice in your paper to sow good seed this spring (if we are to have any spring). Barley, for instance, in Scotland, Northumberland, and Durham, was a good crop, but did not ripen, and would you believe it, many farmers whom I know in the two counties above-mentioned, as well as the highly talked of agriculturists in East and Mid-Lothian, are going to sow barley grown in their own neighbourhoods; not half, and in many samples not one-third of it would vegetate for malting, how then will it answer for seed? Two years ago, Mr. Copar, a farmer in East Lothian, residing at Dunbar, had four bushels of very fine Chevalier barley from Hertford; he sowed one bushel upon three-quarters of an English acre—produce 60 bushels, weighing 60 lbs each, besides small corn. Strange to say, many of his wealthy intelligent neighbours have not a quart to try it (a Scotch quart is half an English gallon); and although many of these gentlemen have had very fine Chevalier barley offered them at 4*s.*, for seed, they think the price too high, and intend to sow what has been grown in their district. I am not a corn merchant, but having some acquaintance in Hertford, Ipswich, Norwich, Yarmouth, and other smaller towns, I have had down for the last four or five years, some of their best barley for seed—but it will not do at all.

A SUBSCRIBER.

Sandiford, near Newcastle-on-Tyne, April 3.

BONE DUST.—Upwards of 10,000 bushels of bone dust were sold at Maduff, Invernesshire, on Monday se'nnight, many people having come upwards of 30 miles for it. It is supposed that there could not have been fewer than 300 carts in town; and a greater bustle was never witnessed by the oldest inhabitant.

MR. GALLY KNIGHT ON THE POOR LAWS.

The anti-poor law petitioners at Radford, Nottinghamshire, have received the following letter from H. G. Knight, Esq., one of the members of that division of the county, and to whom the petition was sent for presentation to the Commons' House of Parliament. Mr. Knight is a staunch conservative.

Lower Grosvenor-street, March 27, 1837.

"Gentlemen,—I have received the Radford petition against the poor law amendment act, and shall not fail to present it at the earliest opportunity, and endeavour to obtain for it the attention of the house. At the same time, I must candidly confess to you that my own opinion is the other way. From the beginning I have supported the poor law amendment act, and every day am confirmed in the opinion that it is calculated to be of great service to the working classes.

"You must excuse me for saying, that you appear to labour under a misapprehension of the real nature and effect of the measure in question—that you entertain groundless alarms—and that I am persuaded you will be of another mind when you see the law in operation.

"In the first place, let me remind you, that with the exception of the bastardy clause, and the alteration in the settlement, which is manifestly for the advantage of the operative, the amended law contains nothing new—nothing which could not have been enforced under the old law, and which had not been enforced, for years, at several places—in Southwell, for instance, in Nottinghamshire, and in the parish from which I am writing in London. Without the introduction of the amended law, I have been engaged, for the last five years, in assisting to carry into effect, in this parish, the exact system and regulations which the amended law requires. The parish contains a population of 70,000 persons, and is partly inhabited by the most necessitous. We have reduced our expenditure 25,000*l.* a year, and, at the same time, we have increased the comforts of the poor, and have given, I may say, general satisfaction.

"What is the real object and tendency of the amended law? Not to save the money of the aristocracy—not to neglect the aged and infirm; but by improving the morals and correcting the habits of the working classes, to make them more happy, more prosperous—more happy in this world and better prepared for the next.

"What was the tendency of the old system? To encourage indolence, improvidence, incontinence, and all the vices and the miseries that follow in their train. When there was always the parish to fly to, the able-bodied man took less pains to find work, and cared less how he performed it. The idle man was paid as much as the industrious man. He felt no obligation, no attachment, to his employer. He too often carried to the gin-shop what should have relieved the necessities of his wife and children. He was dissatisfied with himself, and too often a terror to his neighbours.

"In many parts of England the evil had got to such an excess, that whilst the labourers were in the condition which I describe, the farmers were so weighed down by the rates as to be unable to employ the hands which a proper cultivation of their lands would have required. The wages of all were reduced, and still the evil went on increasing. In one parish (Cholesberg, in Bucks), the rates became so heavy, that the proprietors gave up their estates, the

farmers threw up their lands, and the parish was abandoned to the paupers, who were soon in a state of destitution, because nobody with any capital was left to employ them. Such would have eventually been the state of all England if nothing had been done; and would that have been advantageous to the people?

"The only means of arresting the evil was to teach the able-bodied to cherish that independence which arises from honest industry—not to live upon others, but to exert themselves—and the only means of inculcating this lesson was by making them perceive that, in future, the idle would not be so well off as the industrious. Is there anything unkind in this? Is there anything unkind in the parent who, by restraining his son, implants in him the habits which, afterwards, make the happiness and the success of his life?

"No man in this country must perish of destitution; but as I have already said, the man who throws himself on the parish must not be quite so well off as the industrious labourer. The relief is, therefore, afforded in a workhouse, in which wholesome food is provided, but restraints and regulations are imposed. This will induce the able-bodied to keep out of the workhouse as long as they can, and remain in as short a time as possible. The workhouse must not be considered as a permanent habitation of any but the aged and infirm—it is only the temporary asylum of the able-bodied.

"I hope I have made myself understood. I hope I have made it clear that the intention and tendency of the amended law is not merely to save money, but to elevate the moral and social character of the working classes. Depend upon it, however, that whatever money is saved, will be spent in a more beneficial manner, and that wages will always rise as the poor rates are reduced.

"You complain of the separation of man and wife. I don't mean to say that it is not a misfortune; but, on the other hand, both are relieved from destitution. Are not soldiers and sailors subject to the same temporary privation? How would it be possible to build workhouses on such a scale as to provide family apartments? How could order and morality be preserved in workhouses except by a separation of the sexes? It is nothing new. In all the metropolitan workhouses, and all the well-regulated workhouses with which I am acquainted, the men and women have always been kept separate, and no complaint has ever been made on this subject till now.

"With regard to the bastardy clause, its object is not so much to indemnify the parish, as to preserve the virtue and integrity of the female poor in England. But the parish will be rewarded in the end; for, under the old law, it was an advantage to women to have two or more illegitimate children; whilst, under the new law, an illegitimate child becomes so great a burthen that unmarried females will much more rarely expose themselves to such a calamity. Is it unkind to teach our females to be chaste? Is it cruel to preserve them from all the demoralization and the misery which is the usual consequence of giving way? By the authentic returns, it is already in proof, that in the parishes where the amended law has been introduced, the number of illegitimate births is decidedly diminished. In this parish we commenced the new system in 1833, and in the course of the first year after the adoption of the new regulation, the illegitimate births fell down from 47 to 27; and have diminished ever since.

"The poor law amendment act has now been in operation two years; and in the course of that time, 7,915 parishes have been placed under its operation;

and in all of them, without a single exception, it has produced the most beneficial effects to the working classes. They are in full employment, better paid, more sober, more provident, more cheerful.

"You object to the three commissioners. By what other means would an uniform system have been introduced throughout England? They are only authorities to carry the law into effect. They cannot make a single new regulation without reference to the Secretary of State. They are obliged, annually, to report what they have done to parliament. They are constantly over-looked, and, at this moment, a committee of the House of Commons is sitting to inquire whether they have faithfully and usefully discharged their trust. As far as the inquiry has gone, the evidence is in their favour.

"I could say much more on this subject. It is too copious a one to be well discussed in a letter; but I hope I may have succeeded in removing some of your apprehensions, and that, at least, you will do me the justice to believe that, far from being actuated by a culpable indifference to the welfare of the poor, I am actuated by nothing but an anxious wish to promote their best interests.—I remain, gentlemen, your obedient humble servant.

"H. GALLY KNIGHT."

THE SCOTCH PLOUGH.

TO THE EDITOR OF THE SUSSEX ADVERTISER.

SIR,—Having seen in your paper of the 3rd and 10th instant, incorrect statements of the result of the application of Braby's draught machine to two ploughs on Mr. King's farm, I feel it my duty to attempt to correct, through the medium of your paper, the false impressions which those statements are calculated to make on that part of the public which is interested in the improvement of agriculture; I can but regret that Mr. Blacker and the agricultural world have been led to believe, that ploughing in Sussex is usually performed with four horses and two oxen; so uncommon is such a team that I do not recollect ever having seen one; I believe there are more acres ploughed in Sussex with only two horses to a plough than there are with so many as four, but perhaps the greatest number is ploughed with three horses.

A force of traction of 125lbs. is considered equivalent to the power of a horse working 6 or 7 hours a day, and although a powerful horse may be equal to a greater resistance on a good road, yet I believe the above will be found quite enough for our best horses when walking on arable land; if I might hazard an opinion on the subject, I should say the average traction of ploughs in Sussex is about 3 cwt. I have seen the turn-wrist wheel plough require a force of traction of 6 cwt., and I have seen the same plough drawn in another field by the traction of 2 cwt., so different in tenacity are the soils of Sussex.

When I heard that Mr. Hutchinson was ploughing on Mr. King's farm with the improved Scotch iron plough, which, from its superior construction, was reported to reduce the labour of ploughing three-fifths, I went immediately to meet him, but on affixing Braby's draught-machine to the implement I was disappointed at finding it required a force of traction of 4 cwt. When we were all satisfied that the above was the draught of the new plough, I affixed the machine to Mr. King's old turn-wrist wheel-plough, and the force of traction was $4\frac{1}{2}$ cwt., not 8 cwt., as has been erroneously stated. I ought to add, that there were five persons present, beside the holders of the respective ploughs, to whom I believe it was equally

evident that the above was the result of the experiment; which result I hope will not tend to lower in the estimation of any farmer the real merits of the Scotch plough, for it is an excellent implement, and well adapted to many soils; but such exorbitant exaggerations of its good properties, when compared with the turn-wrist wheel-plough, which have lately been heaped upon it, and which are so liable to be discredited, and can be so easily disproved, would I fear have a tendency to bring its real merits into neglect where the turn-wrist wheel-plough is known, and known to be indispensable in some situations, or even where it is considered by no means a bad implement, if the Scotch iron plough were not so well known and frequently used as it has been in Sussex. I remember its being used on Mr. King's farm nearly twenty years ago, when it was sometimes found necessary to attach four horses to it; in its improved state it does not appear to be much altered with respect to draught.

No one will deny that the construction of a plough will affect its draught much more than the weight of the implement will do: but I think all must admit that the nature and state of the soil will have a much greater effect than either.

With regard to the inclination of the furrow slice, in this neighbourhood land is considered to be ploughed well when it is difficult to see which way the furrow slice has been turned. This effect I think cannot be produced unless the furrow slice incline at an angle of 45 degrees, when the junction of two furrow slices forms a right angle.

The *Newry Telegraph* states, "that the Sussex wheel-plough is obliged to be drawn from a draught from a point too high, by which means the power of the horse is expended in pulling down the beam on the wheel, so that in strong ground in Sussex sometimes one or two cwt. are hung on the beam to keep the plough from starting from the ground."—If the Editor of the *Telegraph* would take the trouble to consult Mr. Stephens (from whom he has copied an excellent letter) on this subject, I think he would learn that the horses drawing down on the beam would not have a tendency to draw the plough out of the ground. But the horses do not draw down on the beam of the plough; the line of traction cannot be ever parallel to the direction of motion, for as the point of resistance is under ground the draught of the horses must be an uplifting power, which is overcome only by the weight of the plough and the inclination of the point of the share downwards, and it is this inclination of the share which causes the beam to press upon the wheels; in the swing plough these two powers are so nearly balanced that the man at the handles of the plough is able to prevent the preponderance of either, and to keep the plough at an even depth on most soils; but we find on some of our stiff soils that the upper surface of the share is so constantly meeting with unequal resistances that the man at the handles has not sufficient power to keep the plough at an even depth; therefore the cultivators of such soils incline their share sufficiently downwards to insure the plough's keeping deep enough; and introduce wheels under the beam to prevent its going too deep; thus lessening materially the labour of the man by increasing very slightly, if at all, that of the horses, and insuring the work being better performed.

The question whether the heavy soils of Sussex should be ploughed with a pair of horses resolves itself into this:—Is a train of 224lbs., together with heavy walking, too much for a horse to endure seven hours a day? I am, Sir, your obliged Servant,

Berwick, April 14th.

WM. STACE.

NEW MANURE.

SHORT NOTICE OF A NEW MANURE MUCH USED IN FRANCE, AND A PROPOSAL FOR ITS INTRODUCTION INTO ENGLAND.

Messrs. Payen and Buran, of Paris, having discovered a composition which disinfects human excrement, and all animal substances, and renders them the most fertilizing manure, perfectly free from any obnoxious odour, and in a pulverized state, now manufacture it on a large scale in France, where it is generally used. Some individuals who have purchased the right and taken out a patent for the invention in the British Empire, purpose manufacturing it in this country, to effect which object they are desirous that a few capitalists, more particularly those who are interested in agriculture, should join them in raising the small sum which will be required for that purpose.

Allowing amply for all contingencies, it is estimated by competent persons that 6,000*l.* will be required for establishing a manufactory for the above manure, 4,000*l.* of which has been already subscribed, and on which it can be shewn, by a moderate calculation, that 50 per cent. annual profit can safely be anticipated.

The following tables show the comparative expense and advantages of the old and new systems of manure, as tried upon two separate arpents (1 acre 2 roods 30 $\frac{2}{3}$ perches); of the same soil in the neighbourhood of Paris, by an experienced practical agriculturist, one being manured according to the usual custom of the country, and the other with the improved manure.

OLD SYSTEM.

EXPENSE OF MANURE.

1st Year, 20 cart loads stable dung, at 6frs. (4s 9 $\frac{1}{2}$ d) a load which lasts for 3 years	£	s.	d.
2nd Year	0f.	0	0
3rd Year	0f.	0	0

120f. 4 15 2 $\frac{1}{2}$

PRODUCE OF CROPS.

1st Year 7 setiers (30 bush.) of corn, at 20f. (15s 10 $\frac{1}{2}$ d)	140f.	5	11	1 $\frac{1}{2}$
2nd Year 5 setiers oats 21 bush. $\frac{1}{2}$ pk. at 18f. (14s 3 $\frac{3}{4}$ d)	90f.	3	11	5 $\frac{1}{2}$
3rd Year green crops	90f.	3	11	5 $\frac{1}{2}$

320f. 12 13 11 $\frac{3}{4}$

NEW SYSTEM.

EXPENSE OF MANURE.

1st Year 8 hectolitres (15 cwt. 2 qrs 16lb, at 5f. (3s 11 $\frac{1}{2}$ d))	40f.	1	11	9
2nd Year do.	40f.	1	11	9
3rd do. no manure	0f.	0	0	0

80f. 3 3 6

PRODUCE OF CROPS.

1st Year 7 setiers of corn (30 bush.) at 20f. (15s 10 $\frac{1}{2}$ d)	140f.	5	11	1 $\frac{1}{2}$
2nd Year 7 setiers (30 bush.) of do.	140f.	5	11	1 $\frac{1}{2}$
3rd Year 5 setiers (21 bush. $\frac{1}{2}$ pk) of Oats at 18f. (14s 3 $\frac{3}{4}$ d)	90f.	3	11	5 $\frac{1}{2}$

370f. 14 13 7 $\frac{1}{2}$

From which it appears that with a reduced expenditure of 40frs. (1*l.* 11s. 9d), an increase of 50 frs. (1*l.* 19s. 8d.) in the value of the crop was obtained, thereby giving a gross total advantage in

(three years of 90 frs (3*l.* 11s. 5 $\frac{1}{2}$ d.) in the new system over the old system, or at the rate of 30 francs (per French arpent), or 28s. per English acre per annum.

We are also informed by the same individual, that the new manure possesses the following desirable qualities, viz. the decided improvement of the land, economy in the conveyance, cleanliness in the crops, freedom from weeds, the production of a stronger ear of corn, and, lastly, that long-sought desideratum by the farmer, the destruction of the fly.

Extracts from reports of the different learned societies and the public journals in France, which have expressed the highest opinion of this successful discovery, for which the inventor received from the Academy of Sciences in France on the 8th September, 1834, a prize of 8,000 francs:—

Agricultural Society of the Seine and L'Oise.

Extracts from Remarks on different sorts of Manure, by M. de Cauville. This Society has voted the insertion of this paper amongst its Memoirs, with the hope by this means of inducing agriculturists to repeat the experiments of Mr. Decauville.

“ Amongst manures there are several new ones, but many farmers, not knowing their value, hesitate to use them, and thus deprive themselves of valuable resources. Having this year tried some experiments upon several of them, I have now the honour to communicate to you the result.

“ In a piece of clayey and chalky ground of the extent of 13 French acres (nearly 11 English) which did not possess much fertility, I had some barley sown after two ploughings, and, at the same time, I spread the following manures. On the first part the blood manure made by Mr. Derosne; on the second, the animalized black (made by Messrs. Payen and Buran); on the third, the disinfected soil of Messrs. Payen and Buran; on the fourth, the Lainé manure; on the fifth, the Boulogne soil.

“ In order to ascertain the duration of the different manures, I sowed some lucerne amongst the barley, and the following crops served to show those which act the longest on the soil; three farmers were chosen as judges, one a member of this Society, who were ignorant of the manure which had been employed, and the following is their decision. All the manures produced some effect, compared with that part which had no manure, the most efficacious was the *disinfected soil*; the second, the animalized black; the third, the blood manure; the fourth, the soil of Boulogne; the fifth, the Lainé manure.”

Extract from a Report of Mr. C. Brianne, Director of the Model Farm of Grignon, 20th Sept., 1834:—

“ In a course of experiments, I manured about 100 acres of rye and wheat with animalized black in the Department de l'Aube, at 40 leagues from Grignon; although the season was not favourable, one can inquire of the people of the country, if they have ever seen a finer crop in the world.”

Extract from a Report made to the Horticultural Society of Paris, by the Viscount Debonnaire de Gif.

“ The result of my examination of the effect produced by this new manure in horticultural proceedings is this: that this pulverized compound appears to hasten the development of vegetables, and consequently accelerates their fructification, that it does not possess the bad quality of containing the seeds of weeds, that it improves by degrees the soil, and produces more abundant crops, and it can, consequently, be applied to garden plants, which exhaust the soil, nor does it impart any disagreeable flavour to fruits or vegetables. It likewise adds considera-

bly to the growth and beauty of the dahlia and other bulbous roots. The facility of its conveyance is also a great recommendation."

Several attestations of persons, who have witnessed the disinfecting process both in France and England, are in possession of the individuals who propose to introduce this manure in England, and may be seen at T. G. Margary's, Esq., Solicitor to the Patentees, Quality-court, Chancery-lane, from whom any further information can be obtained.

N. B. Many preparations of night-soil have been used for some years, both in England and France, but none of them are allowed to possess the superior qualities of the one which it is now proposed to offer to the British public.

REMARKS ON THE CULTURE AND TREATMENT OF FLAX.

TO THE FARMING SOCIETIES OF IRELAND.

GENTLEMEN,—The very unfortunate results of the last year will, I fear, determine many to give up the cultivation of flax. But the great increase of mills in this country, for consuming this produce, forming our staple manufacture, independent of the English and Scotch markets, should be a sufficient guarantee that it will, in our usual seasons, average profitably to the grower; and, although the last has been remarkably discouraging, as regards flax, has it not been so, in a high degree, to the grower of grain and potatoes; and should we, on this account, give up our interest in any of these crops? On the contrary, we should, by greater attention, endeavour to prepare ourselves to succeed better, under such unfortunate circumstances as the uncertainty of our climate may render us liable to.

It is the practice of the Dutch, to sow their flax on deep, rich soil; but the frequency of rain, during our summer months, renders the crop, on such soil, so luxuriant, that, if once laid down, it is unable to recover; and, unless it be then ready for pulling, great loss must arise. I have experienced this, and have found that potato land, in good condition, is, in our usually moist seasons, too rich, and renders the crop very hazardous from the great length to which it will grow. This ground, after a crop of wheat or oats, will be the safest for flax; but, while bearing the former crops, it must be kept free from weeds of every description, and, before sowing the flax, the soil must be reduced to as fine a mould as possible. If there be not a sufficiency of seed used, the plants will make an effort to fill up the vacant space, by branching a little above the root, and also near the head of each stalk. This renders the flax strong and coarse in its fibres, and liable to much greater waste at the scutching-mill; the produce must be sold at a low price, and, in appearance, it resembles hemp more than flax. To produce fine and profitable flax, I have found it necessary to use $4\frac{1}{2}$ bushels of seed to the Irish acre. I have saved the seed, and this flax has been mill-spun to five or six hank-yarns (or "sixties" and "seventies.") From the experience of the flax-spinners, it is well known, that there is but a very small portion of Irish growth that can be manufactured so fine. To insure, as far as possible, the growth of fine flax, the crop must stand so close on the ground, that there will be but one stalk from each seed, without any of the branches before alluded to, and with very few seed-pods or bows on the top. This, with proper after treatment,

is the most certain to give a valuable fibre, and will go less to waste at the scutching-mill.

From my observations, during the very late and dry spring of last year, I feel convinced, that flax-seed will come up with much more regularity, and be less liable to have its growth retarded in parching weather, if we would give the seed a deeper cover than is the usual practice. Owing to the dry state of the ground last year, my crops came up in a very straggling way; and when a portion of the plants had attained the height of four to six inches, I found, on examining the ground, three weeks after sowing, the greater portion of the seed as dry and glossy as when taken from the sask:—that which had grown was found to be deeply covered, and had been supplied with moisture from the sub-soil; and that which failed until heavy rain came lay near the surface, and was too late to be of much value. About this period, I examined a fine field of one of my neighbours, who was fortunate enough to sow while the ground retained some moisture. The crop was regular, and three to four inches high; but owing to the very dry state of the weather, had been for some time nearly stationary. I observed at one side of this field some curved lines of beautiful flax, *double the length* of the general crop; and, on inquiry, found that, before sowing, a few loads of stones had been carted over that part of the ground; the seed fell into the wheel-tracks, and these were filled up by the harrow to the level of the general surface. With a view to the future, I lost no time in making accurate experiments on a small scale, with covers of fine mould, one, two, three, and four inches deep; the seed all came up well, that under four inches requiring three days more than that under one inch.

From these results I think there can be no danger in giving a cover of one to two inches, when it is evident that seed falling into a horse-track, four inches deep, will not be lost. Using the roller to press down the surface, will be found of great importance; in a dry season it will prevent sudden evaporation, and the ground will retain in a greater degree the moisture that rises from the under-soil to support vegetation; it will also be left in a fit state for the scythe when clover is used.

I believe it is generally known, that the produce from an early seed-time is superior, both in quality and quantity, to that which is grown late in the season; and the crop will be found much more valuable if it be grassed before the breaking up of the fine weather; for in this process, if exposed much to rain and cloudy weather, it will be very inferior to that which has had the influence of the sun; and it is liable to great injury from the uncertainty of being able to take it up at the proper time, in a perfectly dry state.

It was my intention, in the year 1835, to have saved the seed from the whole of my crop, and to have held it over to be steeped in the spring of 1836; but the difficulty of having it safe in so wet a season induced me to steep a part of it. It was then so far advanced that it was late in November before it was lifted from the grass; and, while spread out, the weather, with the exception of two or three days at the last, was wet and cloudy. This flax, when perfectly dry and prepared for the scutch, was weighed, and the average produce from 100 lbs. was only 10 lbs. 9 oz. I had succeeded, in the mean time, in getting the remaining part of the crop sufficiently safe for the hovel; and in April, 1836, it was steeped, and grassed in fine clear weather, 100 lbs. of this produced 15 lbs. 3 oz.; which, although from the same seed and crop, was worth fully two shillings a-stone more than the first; and, in conse-

quence, I have held over the produce of eight acres from last year, to be steeped and grassed in the same manner. Notwithstanding the last cold and wet season, I have succeeded in saving a considerable quantity of *good sound seed*. I mention this, to shew what may be done under the most unfavourable circumstances. My crops of the last two years have been chiefly from my own seed, having a portion of Riga and Dutch in the same fields, with the view of putting the Irish seed to a fair test; and, I can safely say, that the crops from the home-saved seed were not, in any respect, inferior to the others. As a more severe trial, I sowed a portion of this seed, the following year, on the same field that produced it, and again found it equal to the imported tried against it. A shorter summer will bring flaxseed to ripeness than is required for our grain crops; and I think we have certainly, in this country, a sufficient variety of soil and elevation to give the changes that are found necessary to prevent degeneracy; and that well saved flaxseed may be used with as much safety as the wheat or oats we buy from a neighbouring farm, and sow with confidence. We must, however, all agree, that it is the worst of management to throw away this valuable seed; it is well worth saving, if not required for sowing. Healthy calves can be reared from it; it is excellent food for cows, pigs, and horses; it will be bought for making oil; and I have no doubt but gas for combustion might be made from it to advantage.

From my own observation, I do not think the degree of ripeness required for the seed is injurious to the flax if the crop be of close and fine growth, but on the contrary will give strength rather than coarseness to the fibre; and it will be brought more to the quality of the Dutch, from which we know the seed is saved. This I have had satisfactorily proved, in observing it through the various operations of mill-spinning.

One acre of good flax carefully saved, will produce seed for five or six acres the following year; and if we were to admit the necessity of some change of seed, a very small importation would be sufficient. I find, if the flax has to remain long in the field after it is pulled, with a view to saving the seed, it is liable, when steeped in pure water, to be of a yellowish buff colour, resembling the French; but any objection to this is from prejudice. If the same flax be steeped in water that contains the slightest infusion of iron (such as is seen in a spa spring), the colour will be *blue*, resembling the Dutch. Some of the fairest coloured Irish flax, even after being scutched and hackled, still contains some of its astringent colouring matter, and will be turned to *blue* in the weakest solution of iron; and this, prevailing, more or less, in springs and stagnant water, accounts for the various shades of colour in our Irish flax. The presence of this iron is, however, injurious when the manufacture is to be bleached; and, unless early removed in this operation by the use of acids, it will become a more fixed oxide, and retard the approach to whiteness. I have remarked that the flax, when made perfectly dry before it is steeped, is much more evenly acted on by the water, and that the fermentation is more equal, than in that which is partially tried, and in the grassing the fibre is not liable to burst from the stalk, even if exposed on the grass double the time that is necessary; the shove is at the same time easily and more regularly cleaned off, the reed is less broken, and, in consequence, much less waste takes place.

Before I conclude I must say, the generality of our mill-scutchers handle flax in a most slovenly way, and cause much unnecessary loss to the owner,

owing to the rough and entangled state in which it comes to market. We have yet ample room for improvement; but it is proper that the opinions of every man should be received with caution, and more than this I am not entitled to expect.

Amongst the various manufactures that have been introduced into this country, none appears more likely to have a permanent root than our *long-celebrated Irish linen*. Much of its prosperity and enlargement may depend on the successful cultivation of the raw material; and none exists at present, giving such varied and extensive employment to both the old and young of our needy population.

EDMUND GRIMSHAW.

Mossley, March 28, 1837.

SUGAR FROM THE CHESNUT.—The extract of sugar from chesnuts being a subject occupying some attention at present in France, a few practical observations may not prove uninteresting: the inventor states that the saccharine he produces is more pure, and much more abundant than that extracted from mangel wurzel, or, as it is called in France, *beet-root*. That the culture of mangel wurzel will be now superseded, as the root only yielding five to six per cent. of sugar, while from chesnuts he can procure 14 per cent.; we will, however, try by the test of figures, the probabilities of the adoption of the one to the exclusion of the other:—

Chesnuts at the lowest calculation will cost
7 francs per 100 kilogs., or 220½ lbs.
English, thus 1000 kilogs. are worth.... 70 francs.

Will produce 140 kilograms of sugar at 1 franc. per kilog 140

Nett produce 70

From which must be deducted the cost of manufacture.

The beet-root is bought at 18 francs the
1000 kilogs. 18

Usually producing 60 kilogs. of sugar at 1 franc..... 60

Nett produce 42

From which must be made similar deductions. Thus 18 francs expended in beet root will produce 42 francs nett, against an outlay of 70 francs in chesnuts, producing the same sum; then we must take into consideration the difference of the expense in manufacture, also of cultivation, including the cost of planting the young chesnut tree, and the time which must elapse before it produces the nuts; and that in all probability, the price of the chesnut would be doubled from the very day the inventor attempted to operate in any other way than in his *laboratory*. M. Pallas has also presented to the king some sugar extracted from the farina of Indian corn, by a process very ingenious, but impracticable as a substitute for general use, at least if the manufacturer wishes to avoid the article he produces costing more than he is able to sell it for in the market.

PYRENEAN SHEPHERDS.—The celerity with which the shepherds of the Pyrenees draw their scattered flocks around them is not more astonishing than the process by which they effect it is simple and beautiful. If they are at no great distance from him, he whistles upon them, and they leave off feeding and obey the call: if they are far off and scattered, he utters a shrill cry, and instantly the flock are seen leaping down the rocks and scampering towards him. Having waited until they have mustered round him, the shepherd then sets off on his return to his cabin or resting-place, his flock following behind like so many

well-trained hounds. Their fine-looking dogs, a couple of which are generally attached to each flock, have nobler duties to perform than that of chasing the flock together, and biting the legs of stragglers; they protect it from the attacks of the wolves and bears, against whose approach they are continually on the watch, and to whom they at once offer battle. So well aware are the sheep of the fatherly care of these dogs, and that they themselves have nothing to fear from them, that they crowd around them, as if they really sought their protection; and dogs and sheep may be seen resting together, or trotting after the shepherd, in the most perfect harmony. There is no such sight to be witnessed in these mountains as "sheep-driving;" no "knowing little collies" used in collecting the flocks or keeping them from wandering. The Pyrenean shepherd, his dog, and his flock seem to understand each others duties; mutual security and affection are the bonds which unite them. The same confidence subsists between the Pyrenean shepherd and his flock, as that between the shepherd of Palestine and his, described in the parable of the good shepherd, of whom it is said, "he goeth before them, and the sheep follow him, for they know his voice."—*Murray's Summer in the Pyrenees.*

THE GREEN CROP SYSTEM.

FROM THE "AGRICULTURAL PAPERS" OF AGRICOLA,
IN THE DOWNPATRICK RECORDER.

"The farmer's life displays in every part,
A moral lesson to the sensual heart."

BLOOMFIELD.

To prevent a long digression in my last paper, I was obliged to assume, that, though there are some crops which impoverish the soil very much, there are others "which are more grateful to it, and which, instead of impoverishing it, afford a reciprocal advantage, by imparting to it richness." But as this statement contains the fundamental principle of the important system which I am advocating, it should not be taken on trust; and, accordingly, the object of my present paper is to show, that the Green Crop system is not founded on a false assumption, but on an *important truth*. The whole crops of the farmer may be divided into two classes—the grain crops, and the green crops. The former are sometimes called *culmiferous* or straw-bearing; and the latter, *leguminous*, from their seeds or leaves being of a much larger kind. Clover, beans, turnips, potatoes, &c., are leguminous plants, or belong to the class called green crops. Now, it has been proved, by experiments made for the express purpose of ascertaining, and is, therefore, beyond a doubt, that plants are not nourished by the soil alone in which they grow, but that much of their sustenance is drawn from the atmosphere; of course, they do not derive the same degree of support from either of these causes—some are nourished more by the earth, and others more by the air. Grain crops are of the former kind. As they have but small leaves, and few of them, and thus present but a small surface to the action of the atmosphere, it is plain that little of their nourishment can be derived from it: they must, therefore, be supported almost entirely by the soil. This is particularly the case when the crops have nearly ripened, when the few leaves they have are withered and dead, or have fallen off; they can then draw, perhaps, no nourishment from the air, but must be supported almost entirely by the soil. But the fact is not so extensively known as it deserves to be, that, at this period, when the seed is forming,

the plants require an extraordinary quantity of nourishment; and hence it is that grain crops are so particularly exhausting to the soil. In proof of this, I may refer, with confidence, to the experience of any intelligent practical farmer. He knows, that if the grain be allowed to stand uncut after it has ripened, it exhausts the soil exceedingly; but that if cut green, the impoverishing effects have not been so extensively produced. Now the green crops or leguminous plants, on the contrary, present an extensive surface to the action of the atmosphere, and, therefore, can draw much of their nourishment from it, without requiring to draw so extensively from the soil. A familiar proof of this may be had from the common cabbage. Its numerous broad leaves enable it to draw most of all its nourishment from the atmosphere, and hence it is that cabbages can be preserved for a long time in a fresh state, if cut and hung up in a damp place. Houseleek is another plant which has broad succulent leaves; and who does not know that it will grow in the most unfavourable situations?—if hoisted on a pole, or laid on a slab of marble, it will flourish most luxuriantly. But this is not all; some plants have been proved to exist, and thrive, and come to maturity, when nourished by the atmosphere alone—growing in pounded quartz, (a substance resembling flint) and supplied with distilled water, to prevent the presence of the smallest particle of earthy matter! Another important fact is, that all the seed of a grain crop comes forward at the same time. Whenever it has properly "shot," the plant stops growing—its seeds begin to form, its leaves wither, its roots cease to act in the ground, and, when cut down it is dry and hard. The green crops, on the contrary, bear blossoms and seed at the same time; the roots are continually pushing forward in the ground, and the leaves are green and sappy as before, so that the plant never exerts itself to impoverish the soil. Every one knows, for example, that beans and peas may be pulled from the lower part of the stalk while the top is bearing blossoms and embryo fruit; that one branch of a stalk of clover will be in flower and another in seed; and that the top of a potatoe stalk will wave in verdure and bloom, when the crabs and leaves have fallen off the lower part. It may not be out of place to mention here a serious error in which many farmers fall. They allow their rye-grass to remain uncut long after it has come to maturity, alledging as a reason, that "unless it is 'dead ripe,' it will never do for seed." They forget that it is cultivated chiefly for the hay, and not for the seed; and that by allowing it to become ripe, they are disappointed of their object, as much of the seed is lost in the necessary operation of saving the hay. Besides, the quantity or weight of the hay is diminished by the parching and withering it has undergone; its quality is deteriorated, as it is rendered less palatable and less nutritious to cattle; and the fertility of the soil is greatly injured. To prevent these consequences, a small spot should be kept to furnish seed, but all the rest should certainly be cut green; the pasture produced as an aftergrowth would of itself be a sufficient remuneration for the loss of seed. A remarkable difference between the grain crops and green crops, is, that the former tend to bind the ground and harden it, the latter to open and pulverize it. This is partly to be accounted for from the difference of their roots. Those of the one kind being numerous and fibrous, unite the different parts of the soil firmly together, without being large enough to produce such an action as would loosen it, those of the other kind being larger, and more of an opening nature, cause an action in the soil, during the process

of growing, that reduces it to a soft and mouldy state. Another cause is the difference of their fitness to admit moisture. When dew or rain falls upon a grain crop, nearly ripe, it glides down its hard, dry, bare stalk, and settles on the ground; but as this presents a hard, bound surface, it remains there until the greater part of it is carried off again by the heat of the sun. When it falls on a green crop, it receives a shelter under the broad leaves, and, trickling down the stalk to a soil softened and prepared to receive it, it contributes to moisten it, and render it softer. Of all grain crops, wheat is by far the most severe upon the soil. It is, in the first place, exceedingly binding, and always leaves the ground in a hard state. Then it occupies the ground so long, that it requires an extraordinary degree of nourishment from its sowing till its reaping; the weight of the grain besides, requires a strong stalk and much earthy matter to bring it to perfection. Of green crops, again, potatoes are the most loosening. They sink deep into the soil, and by the spreading of their roots in every direction, and the swelling of several bulbs, loosen it most effectually. It is said that a crop of potatoes is more effectual in this respect, than a good ploughing would be: one thing, however, is certain that no matter what may be the colour of the soil when the potatoes are planted, when they are turned up their beneficial effects are apparent; for the soil is uniformly of a rich blackish colour. If I were asked, which of the various kinds of potatoes is most pulverizing and beneficial to the soil? I should answer—notwithstanding the foolish prejudices which prevail respecting them—the “cups,” or “west reds.” Besides sinking much deeper into the soil, they are more numerous than other kinds, and therefore give it a more thorough turning up. Now, from these facts, what inference can we draw? That a wheat crop should be preceded by the most loosening and fertilizing crop that can be had, viz. potatoes. They clean the ground, and, as is evident from the parallel I have drawn, they put it in a state of complete preparation for the wheat. It is absurd, then, to expect, that as good crops of wheat will be produced on fallow ground, on which there have been no potatoes.—Another conclusion, which is almost self-evident from the facts I have stated, is, that a green crop should succeed wheat, to compensate for the injury which the ground has sustained. This shows how utterly ruinous and unreasonable is the practice of taking several oat crops off the ground, immediately after wheat. Instead of nursing the soil, already too much exhausted, the very vitals are torn from it, and then, forsooth, it is permitted to “rest itself,” until the omnipotence of idleness has completely restored it!! Turnips are very good for the soil but certainly not as good as potatoes. They derive perhaps, more of their nourishment from the atmosphere, but their roots do not penetrate so far into the ground to loosen it. They are besides too late of being raised, to admit of being followed by a wheat crop; but they can be advantageously followed up by barley, which also suits a clean dry soil. Clover, too, is particularly fertilizing to the soil in which it is produced. Its lower leaves becoming withered, fall off, and rot about its roots, and thus produce a valuable manure—decayed vegetable matter. Its slimy succulent nature keeps the ground always in a state of fertility, and its numerous dense leaves are particularly adapted for retaining the moisture that has been deposited for rains and dews. Who has not observed the rich unctuous appearance of ground where clover has been cut shortly after the deposition of the moisture? I hope, and believe, that I have

now proved my assertion, to the satisfaction of all who may honour this paper with their perusal. Let it be remembered too, that, in referring to the reciprocal advantages which arise from a proper rotation of crops, I have not once alluded to manures. If proper changes from grain crops to green crops, and *vice versa*, would almost of themselves, suffice to keep the land “in heart,” what might we not expect, when, in addition to this, one fourth of it would be well manured annually? This part of the subject brings me now to the important question already noticed. How is the manure to be produced.

March 29.

AGRICOLA.

IMPORTANT TO FARMERS.—CULTIVATION OF FLAX.—The cultivator of the soil often defeats his purpose by adhering to old-established and contracted principles; these, whether right or wrong (in too many instances, equally the same), continue to be the guide in rural affairs, generally, always acting as if “one woodcock should make a winter.” Hence it is, that, when one solitary crop has failed to come up to their expectations, then—oh! there is no good in that—there is no use in striving with it; and a general despondency is the sure consequence. Now, as it is with one thing, so it is with another; and so it is with flax:—when one or more summers happen to be unfavourable to its growth, then, with one consent, it is almost totally abandoned. This apathy continues, until consumption has nearly absorbed what little may have been grown, in this country, together with the always too large importations from the continent. The ever active “tear and wear” throughout the world, in the end, so raises the price, that flax again becomes a matter of interest; and then, as if aroused from a lethargy, away, again, to the sowing of flax, is the order of the day; but, too generally, without the least discrimination as to whether the soil be at all suitable or not;—so, then, of course, some hit, and some miss. A may have cause to rejoice at the good return from his flax; whilst B, less fortunate, may shake his head, and say, that, for his part, he had a perfect “mountain of labour, and yet, but a mouse brought forth.” The last summer, certainly, was very unfavourable to the growth of flax; but, it may be, that the like we may never see again. If so, and the ensuing season be at all favourable, what a stupidity will prevail, on the part of the farmer,—for, likely, most of them will not sow any this Spring. But, the very fact of the failure of the preceding year, the bad quality of what was grown, and the consequent bad price, ought to be a hint, broad enough, indeed, to sow with discrimination, and, most likely, with success; for, oftentimes, it has been found exceedingly beneficial to proceed on a path different from the multitude, or to take up what all lay down. Excellent materials the people of Ireland have to work upon; for, as a flax country, there is not any one better than this—and why not have it so?—but the farmers are inattentive as to its proper management. This is confirmed by the present prices, which, certainly, are low, and that, too, in proportion to its inferiority of quality—bad enough, certainly; and, in consequence, cheap enough. But, if one individual has, and more than one have, sold their flax at about 20s per stone, grown in this very neighbourhood, and in the now past very unfavourable season,—the fact is established, that flax might be grown here, both of such quality, and, also, in such quantity, as to rival the foreign; and, at the same time, to prevent that immense importation, which is still permitted to continue to these, in this respect, infatuated countries. Immense, indeed, it may be freely called; for, from the printed returns of the continental sales, it appears, that so far as about 30,000 tons had, this last year, been sent over; and for what? Why, our (seemingly too much) hard cash, to be sure. Well, now, were this mass of flax sold at but a fractional part of what we, the other day, witnessed, the

thing, if understood, would be a bait, somewhat tempting; indeed; for, in the common way of business, a gentleman of this town bargained for, and actually gave so far as 175*l* for only two tons of Flemish flax; and, in another case, although right well versed in these matters, he had to give for French flax, so far as the enormous rate of 100*l* per ton, each of the common standard weight!! Countrymen! what are you about? Do grow flax of a good quality, and let these endless thousands be retained at home.—*From a Correspondent.*—We earnestly recommend the attention of farmers to the above observations of our correspondent, on matters in the flax line; for, we have ever found it the case, that the only way of reasoning with the public is, the downright pounds, shillings, and pence matters of fact. We, certainly do think, that those who may be so discerning as to see where their own interest lies, will not be influenced by public opinion—will not do as the multitude does, but will sow flax where convenient, and that, more especially, as some of our respectable merchants have got seed of the very first-rate quality, that might, in all probability, be turned to right good account, by farmers to whom this memento may find its way.—*Belfast Reformer.*

ALLEN'S TREATISE ON THE CUCUMBER.

The following extracts from this publication may prove useful to our readers:—

“ TO PREVENT THE RUNNERS BEING IN A CROWDED STATE.—When the bed is nearly level by the repeated application of fresh mould, and the plants begin to send forth their runners, with your finger and thumb clear them nearly of all false or male blossoms, and rub out every other eye in each runner; those eyes which are left, will break out amazingly strong, and grow very fast, their leaves become a tremendous size, and when fruit appears, it will, in the first instance, be much finer than by any other system. I have very often had them three inches and a half before the blossom is expanded; by the repetition of this mode of culture, as the plants advance in growth, they will never be in so crowded a state as to require the aid of a pruning knife; but those who put more faith in the following, let them practice it, and I wish them joy of their choice, which is, ‘ Let your plants run wild for a certain time, and then to make your runners lay thin and uniform, use the pruning knife freely in cutting out those superfluous shoots which have been allowed to grow.’ Instead of destroying them in their infancy, and directing the virtue of the plant to the fruit, allowing only as many runners as the frame can conveniently accommodate.

“ PRODUCING HEAT WITHOUT LININGS.—In March and April the bottom heat will be but very little in the air of the frame; if the bed has been established six or eight weeks, a considerable quantity of hot manure is generally applied in lining the bed, to produce the heat required; but under my mode, I consider that neither lining or covering is requisite only in the months of January, February, March, and April. In the latter month the sun will bear a great power; shut the lights down by two o'clock, and in fine bright days it will increase the heat in the air of the frame to one hundred degrees in the course of one hour, and by its being so confined the entire bed will absorb that heat, which will rise in the course of the night, and through the dampness of the mould, diffuse a beautiful steam, to the great advantage of the plants.

“ TO CONDUCT A RACE FOR UNUSUAL PURPOSES.—We all know that cucumbers are not grown to the length of twenty or thirty inches long at Christmas time, but in the spring, say April or May, if a brace is required for a particular purpose, they may be obtained with an addition to the treatment before spoken of. I need not state that the plants at this season are very strong, the infant fruit of unusual size, and may be made to travel at an extraordinary pace, as much as two inches in six hours; fourteen inches in three days, and to perfection of twenty-seven inches long, in eight days from their being set.—After a fruit has been impregnated two days (for I have proved that to be the best and most proper age to direct all virtue to the fruit), by pinching out the eye *at the fruit*, the one before and after, and stopping the runner, is the way in which my fruit has been made to run so far before my neighbours.—N. B. If this operation is performed before the fruit is two days old, it is not of proper age to receive the virtue which is directed to it, consequently it will make large at one end and grow ugly.

“ STRAIGHTENING.—If any fruit should offer symptoms of being bent, they should be put in the right path in the following manner: when they have been set four days, in the middle of the day, or when the heat is at the highest degree, is the best time to perform this operation, as in the morning the fruit will be found quite stiff and brittle; but when the sun has acted upon the plants, and the fruit warmed through, it will (at this age) bend like leather; you may put it into any position you please, or *pull it out half an inch occasionally*; lay it on a strip of glass, and with three pieces of stick, one at each end of the fruit, and one in the middle, with a piece of list between the fruit and the stick, to prevent its being marked; it is better than a trough or cylinder, as it is not confined, the colour will remain very green.

“ CANKER.—I have effectually cured this disease in the month of May, by applying fresh mould from the pasture about one inch deep, giving but little air, and exposing them to the sun.”

MANGEL WURZEL. — At Hohenheim an experiment has been made the past summer to ascertain comparatively the best plan to be pursued with the cultivation of Mangel Wurzel—whether it was more profitable to pluck off the leaves about a month previous to the clearing the roots from the ground, or allowing them to retain their *leafy honors* until the period of their being taken up; and the following is the result of two equal portions of a field on which the systems were tried:—

On the 11th Oct., by leaves.....	756 lbs.
5th Nov. ditto, at time of securing the roots.....	272
Ditto, weight of roots.....	4472
<hr/>	
Total.....	5500

The other portion of the field yielded, at the time of securing the roots

5th of Nov., by leaves....	894 lbs.
Ditto, weight of roots.....	4948
<hr/>	
Total.....	5842

On that moiety of the field where the roots had been untouched, there was a diminution in the produce of leaves of 134 lbs., but an increase of 476 lbs. in the roots; and even supposing that the leaves have equally nutritious properties with that of the roots, yet there is a superiority in favor of the system of permitting the root to come to maturity before depriving it of leaves of 342 lbs., or about 6 per cent.

APHTHÆ IN SHEEP.

BY MR. RAWLINGS, OF BRISTOL.

(From the *Veterinarian*.)

The following is a novel, interesting, and severe disease in a flock of ewes and lambs, and the mode of treatment used in its cure, as communicated to the Bristol Agricultural Society, at its annual meeting and exhibition in December last.

In the month of May, 1836, I was sent for to see the above flock, at Mr. Charles Marshall's, Snows-hill, near Broadway, Worcestershire, who had lost several ewes and lambs previous to my seeing them.

I found seventy lambs in a most emaciated state, scarcely able to move: their mouths presented a mass of disease, being one complete ulcer.

On examination, I found a large fungus issuing from all around the lower gum, enveloping the teeth, and protruding over the lip to a *very considerable extent*.

There were about thirty still more or less affected. The disease clearly originated in the lower gum, and, when it was matured to any extent, the ewes refused to allow the lamb to suck, and it gradually pined away.

At this stage of the disease the lamb communicates it to the ewe's udder. As soon as she is affected, she begins to lose flesh most rapidly; the udder becomes tumefied. In some of the extreme cases the udder suppurated, and parts of it, with one or both teats, sloughed, and the ewe was rendered useless for a stock ewe.

My first object was to get the flock separated; those severely affected, both ewes and lambs, from those less so; and to keep the sound ones in a distant field.

The disease being contagious, by carefully attending to this plan, and examining the flock, and removing those that became affected, and using the following detergent dressing, I succeeded in curing the whole. R Mel acetat. lbss., aluminis ust. 3vj, cupr. vitriol 3ij: apply it every morning to the affected part.

Mr. Hyatt, at the adjoining farm, had his flock also affected, but did not allow it to progress; and by using the same means, his flock soon got well.

I have made every enquiry on the Cotswold Hills, and find no one ever saw in ewes and lambs any disease like it before.

One farmer at Radstock, in Somersetshire, said that, many years ago, in their neighbourhood he knew a similar disease, and it proved very fatal.

I have lately been at Mr. Charles Marshall's, Snows-hill. I examined the whole of the flock. The lambs were quite well, but much less in size than those that had not been affected.

The ewes, about twenty in number, whose udders sloughed, were most of them fatted and gone to the butcher.

EFFECT OF THE NEW POOR LAW.—A gentleman, whilst travelling the other day in the neighbourhood of Bristol, went into a beer-shop by the road side to wait the passing of a coach. Observing symptoms of confusion in the "establishment," and inquiring the cause, the landlord explained by stating that he was about to quit "the concern" at Lady-day—the business was all gone—he took nothing now—no poor man now had any money to spend—"and all entirely out of that d—d new poor law." The delighted listener, unknown to the complaining landlord, was the Chairman of a Board of Guardians of an adjoining Union.

SCHOOLS FOR AGRICULTURISTS.

Britain abounds in societies for advancing the interests of agriculture and rural economy in all their branches; almost every county has its agricultural association, or farmer's club. The endeavours of these excellent institutions do not, as far as we are aware, embrace the improvement of the moral and intellectual condition of the husbandman. This is a point to which hardly the smallest attention has hitherto been directed in this country. And yet a great deal of good might be done by a systematic course of education, suitable for giving the young farmer a knowledge of his profession, scientific as well as practical. At present, no correctly defined system of this nature prevails. The education of all is left to chance. From anything which we have heard or seen, riding on horseback, wearing jockey boots, drinking freely, and, if possible, being a member of a yeomanry cavalry corps, constitute a pretty large share of the elementary training of young farmers, in many parts of the country. We should like much to know how many of our tillers of the soil have read Professor Low's Treatise on Agriculture, or studied Sir Humphry Davy's Agricultural Chemistry—a careful perusal of the latter work, or some one to the same purpose, being essentially requisite in the education of a person whose business it is to cultivate soils. We believe a few young men attend the lectures of the Professor of Agriculture in the University of Edinburgh, and we know that some are taken into training by those who have the reputation of being skilful agriculturists. But all that is done in these ways is little in comparison to what ought to be done. We should wish to see an uniform, well digested process of instruction established in application to every member of the farming classes, without exception. It is very certain, that, from the great advance in agriculture which has already been made in some parts of the country, there is much less need for schools of this description in Britain, than in America, Switzerland, France, and Prussia. Nevertheless, much benefit would arise from such institutions, provided they were diffused over the country, and rendered readily and easily accessible to the sons and assistants of landed gentry and farmers.

The first object to which directors of these agricultural seminaries should direct their attention, is the cultivation of the minds of the pupils, in relation to their future pursuits. For example, every one ought to be made acquainted with physical sciences generally, and with mechanics and chemistry in particular. The pupil should, at least, be rendered competent to define the principles or laws which govern nature in her operations connected with the structure and character of the soil, the climate, the production of vegetation, and the animal economy. To these elements of knowledge, might be added mathematics and drawing. So much for our class of subjects of instruction. To render the process complete, a knowledge of the elements of political economy and civil arrangements of society would require to be given, but it is not likely that these would be generally sanctioned, and therefore it is needless to do any more than allude to them. A course of tuition in those branches which are adopted, if accompanied, as it ought to be, with practical lessons, might be gone through in three or four seasons, of perhaps three or four months each.

We are aware that at present there is little or no chance of any suggestion like that which we now make, being attended to. The realisation of such a scheme is not to be expected for many years to

come, and only at last after a long series of party wranglings. But as every thing requires a beginning, we have thought it worth while to propound the subject, which has already been spoken of in various ways, leaving the hint we have given to work its way. We may be wrong in our conjectures; we may be speaking too lightly of the present mode of bringing up the young farmer, which is no doubt very captivating to the young men themselves; still we cannot help thinking that the man who brings a judiciously cultivated mind to the improvement and practice of the all-important labours of the field, is much more likely to be successful in his operations, than he who knows little else than how to ride on horseback, drink punch, and swagger in a laced jacket.—*Chambers' Journal.*

THE BASTARDY LAW.

TO THE EDITOR OF THE YORK CHRONICLE.

SIR,—Whatever delicacy there may be in discussing the bastardy law as formerly, or at present constituted, the time is come when we must speak out; and that delicacy is false, which sits silent when the order, welfare, and, above all, the morality of society are at stake.

Before the general operations of the Poor Law Amendment Act, so far as regards the union of parishes, &c., were enforced, this obnoxious part of it was put in operation: it has been working now two years, and therefore it cannot be said that we are exciting prejudices against it before it is fairly tried. Whatever may be the ostensible principles upon which it originated, it has evidently failed of its object, and entailed many serious evils on society.

In the first place, it incurs serious expenses on parishes. Instead of having the order of maintenance made by the nearest magistrate, the mother, overseer, and witnesses must be dragged to quarter sessions, besides giving every facility to heavy law expenses, and litigation generally. Now it requires no great force of reasoning to shew the inexpediency of this course, which can serve no advantageous purpose whatever. Cases frequently occur, where the parties are to be carried from Malton to Northallerton quarter sessions, besides incurring a heavy law-bill; and thus many pounds are laid to the parish accounts,—and after all, perhaps, can never secure one penny from the father. But this may be taken in another view. The trial of cases of this nature in a crowded court is a source of the greatest demoralization to those who attend, and no scene can be conceived more likely to excite the passions than those which are witnessed on such occasions. Besides, how degrading to the poor female! After such an exposure, can she be expected ever to look up again in society to regain her character; and is it not for ever poisoning her morals, and banishing from her any hope of reinstatement to society? How contrary this to the spirit of Christianity!

But there is another odious feature of the law, and one which all the farmers, as a man, should stand forward to oppose. If the father has no visible property, he can, whatever may be his earnings, evade all payment towards the maintenance of the child.—It is mere banter to say, that they can seize upon his wages in the hand of his master; he will take care to prevent any such appropriation, and what a boon is this to journeymen operatives, who hire by week. Thus the seducer, always *the person* to blame, escapes, while the poor deluded victim of his vile passions is

either to drag out a life of misery and want, of degradation and confinement in the parish workhouse, or destroy her innocent offspring, and thus add to her sin that of wilful murder. Surely, all who are in any way desirous to prevent crime, and foster high moral principles, must resist this detestable system.

It will not do for the advocates of the measure to say, that this severe punishment of the female will prevent crime. It may occasion concealment of the consequences, and thus present an apparent diminution; but this sin is generally committed without a thought of the results, and therefore it will not operate to prevent it. If we do anything by way of prevention, nothing will be so useful as to close all public-houses and beer-shops at eight o'clock in the evening in winter, and nine in summer, and secure the observance by heavy penalties, and loss of licence for the second offence.

I observed in your paper, a few weeks ago, that a petition had been sent from Husthwaite, in this county, for the amendment of the law, and I hope it will be followed by others from every city, town, and parish in the country;—not to return to the old system, which was but a premium to bastardy, but to amend the obnoxious parts of the new law. *What is done should be done quickly.*

W. E. N.

The following is a comparative table of the amount of OXEN, COWS, CALVES, and SHEEP consumed in PARIS, and the quantity of MELTED FAT delivered to the tallow chandlers during the first three months of 1836 and 1837:—

	1836	Oxen.	Cows.	Calves	Sheep	Melted Fat.
January	6,557	1,372	6,034	32,019	610,375 kilogrammes*	
February	6,855	1,250	5,477	29,279	542,668 Do.	
March	5,926	1,216	5,674	27,323	592,552 Do.	
	19,338	3,838	17,185	88,621	1,745,595 kilogrammes, or 3,849,051 lbs. English.	
1837						
January	6,702	1,624	5,793	34,119	582,081 kilogrammes	
February	5,978	1,239	5,451	27,075	531,935 Do.	
March	6,650	1,490	6,916	31,668	586,970 Do.	
	19,336	4,356	18,205	92,862	1,700,986 kilogrammes, or 3,750,672 lbs. English.	

The 100 kilogrammes being equal to 220½ lbs. English.

PLANTING OF TIMBER TREES.—There are thousands of acres of waste land in Ireland which are of little value, but which, if planted with suitable kinds of forest trees, would bring in several pounds per acre annually; many kinds of trees, as the Scotch pine, larch, alder, willow, and several others, will flourish on soils fit for no purposes of husbandry whatever. The following statement will show the advantage to be derived from planting an acre of poor soil with black Italian poplars, *populus aladescas*, *Lin.*:—Digging, trenching, and planting poplar cuttings. 15l; Compound interest on 15l for 30 years, at 5 per cent., 63l 16s; Rent, 30 years, at 20s per acre, with interest at 5 per cent., 66l 18s 6d; total, 145l 14s 6d. At the end of 30 years, there will remain, allowing for thinnings, 500 trees, containing, on an average, 20 feet of timber each, which is worth, at least, 1s 6d per foot, making the value of the trees 30s each; but, suppose them worth only 20s each, there remains 354l 5s 6d profit, or nearly seven times the value of the land, reckoning it worth 50l per acre. The Lombardy poplar is the more valuable for timber, but the black Italian is the quicker grower: either sort will grow freely from cuttings of one year old shoots.

FARM OF BOGLILLIE.

SIR,—When on my way lately to visit the system of husbandry pursued by Mr. Smith of Deanton, in praise of which it is impossible to speak in terms too high, I stopt in the lang town of Kircaldy. Having learned that the farm of Mr. Lewis, of Boglillie, was in the immediate neighbourhood, I forthwith resolved to have a peep of his operations, to ascertain if his practice was consistent with the recommendations given in his work on the expediency of establishing an experimental farm. On my way out, my attention was arrested by the appearance of extensive draining in a large field near his worthy proprietor's approach, which the boy from the Inn gave me to understand belonged to Mr. Lewis. I repaired to the spot, and after a thorough examination of his system, and the manner in which his drains were cast and filled, my anticipations were most amply realized. It is not too much to say that nothing can be more complete, or more adapted to ameliorate the lands—secure him a handsome return for his capital, and raise him in the estimation of his fellow agriculturists. I am not ashamed to confess that I was for some time backward to adopt this modern system of draining, and sceptical as to the probability of its remunerating the tenant: but now I entertain no doubt on these points; indeed, I am satisfied that if not thoroughly done, it were better for the tenant to pursue that beaten path which agriculturists are too apt to continue in, as, by a partial draining, he will ultimately be certain to meet with disappointment and loss, and be forced to confess that his capital had been injudiciously expended. To those, therefore, desirous to keep pace with the improved modern system of agriculture—and every agriculturist should be inspired with this desire—I would recommend an early visit to Mr. Mr. Smith and Mr. Lewis.

Before leaving the latter gentleman, with whom I have not the pleasure of being acquainted, I must state, that my curiosity carried me to his farm-steading, which I examined with no small degree of satisfaction. It is fitted up with great taste, without being liable to the charge of extravagance, and, from the many conveniences, there cannot fail to be a considerable decrease of manual labour, and saving to the tenant. The stables and byres are so constructed, as to ensure health and comfort to his stock. There is one part which I particularly admired and approved of, namely—the hemmels which he has erected for feeding cattle in. Mr. Lewis being absent, I made some inquiry at a young gentleman, whom I found very communicative, as to the price of the cattle when put in, and their condition from which I was convinced they had made rapid progress. The feeding in hemmels is now, beyond controversy, a most decided improvement, and in proof of which I cannot appeal to higher authority than Mr. Boswall, of Kincausie. Mr. Lewis is evidently, judging from what I have seen, a man of great spirit and enterprise, and cannot fail to be rewarded for his meritorious exertions.

Before concluding my remarks, I take leave to observe, that, in the erection of farm-steadings, the advantages in Mr. Lewis's, to which I have alluded, are too much disregarded. In fact, large sums of money are often expended in the erection of what are termed modern steadings, without any consideration being bestowed in their formation as to convenience for the tenant and his servants, or the health and comfort of his stock.

To some, the expression of *comfort to stock* may appear strange; but by many, if not all, who have paid attention to the rearing and feeding of stock, this is a most important point, and worthy of the strictest attention in the construction of steadings.

By inserting these observations will oblige, sir, your most obedient,

A NORTH COUNTRY FARMER.

TO AGRICULTURISTS, &c.

In the *Aberdeen Journal* of 29th March last, there is an account of a Shaker for a Thrashing Machine, said there to be the invention of Mr. G. Ritchie, Mill of Melrose.

The paragraph above alluded to, (and which is subjoined,) is not, so far as I can learn, either written or authorised by Mr. G. Ritchie, who is there said to be the inventor of the new Shaker.

I have seen the Shaker at work, and am far from wishing to detract from the merits of Mr. Ritchie as a Mill Wright, but it is a duty I owe to myself to state that the Shaker is neither a new invention, nor of the invention of Mr. Ritchie, the same Shaker having been invented by me in April 1829, for the purpose of being attached to the Thrashing Machine of Andrew Longmore, Esq., at Rattie, in this neighbourhood, and a model thereof furnished to the Mill Wright, then improving the shaking of his Thrashing Machine, as I can establish to the satisfaction of the public at large, if that shall be found necessary.

WM. DOCKAR, Farmer, Findon.

Findon, 3d April, 1837.

IMPROVEMENT IN THRASHING MACHINES.—It has long been a desideratum that a more efficient mode could be discovered than that hitherto in use, for shaking the grain from the straw in thrashing-mills; and we are glad to say that Mr. George Ritchie, millwright at Mill of Melrose, has invented a shaker, on an entirely new principle, which does its work so perfectly as scarcely to leave room for a desire of further improvement. Although the machine is simple in its construction, it might be difficult to convey a correct idea of it in writing. Suffice it to say, that its operation very much resembles hand-shaking, that its cost is little more than that of the old shakers, that its friction being trivial, it is not liable to break or become disorganized, and lastly, that it is *actually at work* on the Farm of Awwals, or Yavals, occupied by Mr. Anderson, in the parish of Gamrie, where a number of those interested in such improvements have seen it; all of whom have been much gratified with the beautiful, easy, and almost natural appearance of its motion, resembling as it does, not a single pair of human arms, but any requisite number, in proportion to the size of the mill. The one at Awwals has sixteen arms, each about seven feet long, placed side by side, and the whole extending in breadth about $4\frac{1}{2}$ feet. The eye-witnesses above alluded to are the parties who desire the insertion of this notice, as of a valuable boon to the agriculturist. Mr. Ritchie is already well known in the district as an accomplished machinist, and an honest tradesman; and it is but justice to say that, although the invention is individually his own, yet, from the innate modesty which so often accompanies sterling talent, he would not of his own accord spread the account of his discovery so speedily as the public interest undoubtedly demands. In conclusion we would remark that after the public are as well convinced of the value of this invention, as are those who have already seen it, we have no doubt that a spontaneous desire will manifest itself to devise some mode of rewarding its author. Mr. Anderson's is an old mill, but he took out his old shaker to make a trial of the new invention, and is much pleased that he has done so. One extensive farmer says its adoption will save him 234 a year in grain.—*Aberdeen Journal*.

TO THE EDITOR OF THE FARMER'S
MAGAZINE.

SIR,—I was somewhat surprised at Mr. Milburn's last reply. He has not advanced a sentence in refutation of what I have before advanced. I begin to think that either he or myself must advance something more than we have done to satisfy your patience by so much occupying your columns. We are just where we were at the commencement—each party has advanced a something—which, it appears, is not convincing—both of us lay claim to certain facts without producing conviction. Mr. Milburn clings to the Old School, and that native pride which is so inherent in Englishmen will not allow him to succumb to the most evident facts, and until he will allow that pride to yield to the most convincing arguments—arguments founded on the best foundation—what can possibly accrue from what either party may advance? I will, however, endeavour to bring forward the most ample and convincing proofs in connection with what may otherwise be advanced. As I have before observed, the question in dispute is whether the fly was the cause of the failure—or whether it was the various causes which affected the growth of the plant. To the latter opinion of course I adhere, and shall endeavour to defend until a more elaborate definition of the subject shall convince me to the contrary. I assure the honourable gentleman, (Mr. Milburn), with whom I have the honour to dispute the subject, that if he can produce any convincing facts, founded upon a rational basis, that I am not prejudiced to my opinion so much as to exclude the more enlivening rays of philosophical disquisition founded upon self-evident facts. In regard to the weather and its concomitant evils being the cause of the failure of the turnip or other crops, I will first advance the simplest arguments in its favour—and as those are generally more potent in themselves than the most elaborate philosophical arguments, or facts that can be advanced, they may have a tendency to cast a more brilliant ray of light upon the subject in dispute than any thing either party may as yet have brought forward. Suppose a company of farmers assembled together in the month of May, June, or July, (those being the three most important months in which we expect the turnip crop to rise or fall), what is generally the first observation? Why, the common adage—“Good morning, sir—what fine or bad weather for turnips!” (as the case may be). They then observe to each other if the weather be fine that turnips grow best under the influence of warm showery weather, or, “how do your turnips stand?” “Quite well” (if the weather be fine) is the reply. Scarcely a word do you hear about the devastations of the fly. Again, should the weather be dry and unfavourable to the growth of plants—what is then the common observation? Why, the following:—“Good morning, sir, what bad weather for turnips. How do yours look?” “Oh! very badly indeed—we want rain—(or they want a something which will give a stimulus to the growth of plants)—the plants are quite filthy—the fly is taking mine—I am afraid unless we have a change in the weather that I shall have to sow again—turnips like warm showery weather.” Thus we find that the most ordinary remarks used by common farmers, whose souls proud science never taught to stray or search into the great laboratory confirm me in my opinion, that is to say, that the cause of the failure or the loss of the

turnip or other crops was in the weather, with its concomitant evils, and not in the fly. Again, from these and such like common-place observations, which in themselves to a careless observer appear insignificant, will to a more philosophical mind appear more potent than the most elaborate elucidations upon the subject—these men—common observers of nature, though they never pry into her, furnish us with more convincing proofs than the most exact and minute philosopher is able to extract from Nature's laboratory. Thus we find that these common observations all concur in confirming my opinion, that unfavourable weather always precedes the ravages of the fly—they in every instance make mention of a degree of ungenial weather before ever mentioning the fly or its ravages.

Having noticed the most ordinary observations in confirmation of what I have before advanced, I will now proceed to show, or at least endeavour to show, how far otherwise my opinion may be correct.

Having taken a survey of common sense let us now ascend into the region of that intricate labyrinth—philosophical disquisition. Mr. Milburn seems at a loss to know why the fly selects one plant in preference to another. Upon this subject I will endeavour to inform him. Plants require a certain degree of moisture, air, and warmth to support or maintain their vitality; and whenever there is a deficiency of those requisites, plants of every description become diseased. During this state of disease the cuticle of the plants form a nidus or matrix for the suscitation and germination of the infant insect peculiar to the plant. An all-wise Providence has so ordained that whenever the scale of nature is broken up a vacuum is immediately obtained; and no sooner obtained than occupied; the parent insect immediately pounces down, and almost immediately fills up the space that was obtained by the diversified causes which had affected the vitality of the plant.

Some of the various causes which have a tendency to promote disease in plants may be enumerated amongst the following. For instance, we may mention the drilling system, which has evils peculiar to itself; by ridging up the ground a greater surface is exposed to the parching rays of the sun during the summer months, thereby promoting evaporation, which it ought to be the endeavour of every husbandman as much as possible to prevent (except upon fallow ground, or under peculiar circumstances where he wishes to kill the plants or weeds instead of preserving them) for by keeping the ground covered a certain degree of moisture is stored against an unforeseen drought. Another evil which attends the drilling system is this:—The plants only form a cover to the ground in a longitudinal direction—transversely, they are exposed to the deleterious effects of a hot summer's sun—evaporation goes on too rapid—or at least more rapid than it otherwise would do were the interstices between the rows filled up by the leaves of plants. Again, another evil attending the drilling system:—When the ground is ridged up, the rain which falls during the summer months drains off too rapid into the grooves, thus leaving the plants without that support which Providence intended they should have had. Thus we find that the evils peculiar to the drilling system tend to deprive the plants of support. First, by being ridged up and exposing a greater surface to the sun. Secondly, by being in one direct line, thereby allowing evaporation to go

on more rapid than it otherwise would do were the seed thrown in a desultory manner. And thirdly, by the ridges tending to conduct the water into the grooves. So that these are causes why the drilling system or land that was drilled failed in a greater degree than the broad cast did. Again confirming my opinion, that the cause of the failure of the turnip crop was not in the fly or insect, but in the various causes affecting the vitality of the plant. So that Mr. Milburne may easily perceive why the insect passes or attacks one plant in preference to another. The healthy plant does not present or offer a matrix or nidus for the reception of the ovum or young of the insect. As soon as ever a nidus is formed it is immediately occupied, for we perceive that there is not a chasm in Nature, however small, that it is immediately filled by animated beings, thus keeping creation upon a perfect balance. From what I have advanced I would not be thought to advocate the extermination of drill husbandry: it has its good properties and its bad ones, it will always be the most successful during wet summers, but injurious in dry ones from the causes before mentioned, and from other causes which the limits of a letter will not allow me to elucidate.

Another fact, which I may be allowed to mention in confirmation of my opinion, is this:—Mr. Housley, of Mansfield Woodhouse, Nottinghamshire, a very enlightened and enterprising agriculturist, had a very fine field of turnips that was sown broad cast and extremely fine plants; before hoeing he sent his men to hoe, and in a few days after the plants which were left became covered with aphides: the reason why they were so attacked is obvious. So long as the plants formed a cover to the ground and prevented rapid evaporation, they (the plants) were supported by the moisture which lay near the surface; but as soon as the field was hoed the plants being then separated from each other admitted the piercing rays of the sun, evaporation would then go on rapidly and ultimately leave the plants without any support; then, as it actually was, the plants became diseased from a want of a sufficient degree of moisture, and a matrix or nidus was then formed from the diseased state of the plant, and as a necessary consequence the insect peculiar to the plant attacked it.

Another system which is pursued, and which probably has given rise to that fallacious opinion, that various manures produce the fly, the system I am alluding to, is, where the raw manures are used in drilling or other systems of husbandry, but more particularly in the drilling, (though the same causes do produce the same effects in a greater or less degree in proportion to the manner in which they are applied) it is a well known fact raw or long manures are more vital and powerful than prepared ones, and that the foundation of agriculture rests upon this basis—how to create manures and how to apply them. Perhaps it may be thought that I am swerving too much from the point in question, but I express myself thus laconically because it is connected with what I am about to advance, as will be perceived in the sequel.

For instance, if in the drilling system you take your long manures, those manures when incorporated with the soil keep it light and porous, and when fermentation commences, the heat produced during that fermentation in conjunction with the caloric from the sun's rays carries off the moisture from the soil. Suppose those hot, vital manures, which thus keep the ground light

and porous were embedded in the month of June, and the envelope exposed to the deleterious, fiery rays of a summer's sun—what are the effects? It is obvious. I ask will any enlightened mind tell me that such a matrix is a proper one for the suscitation and germination of the seed, which may be deposited on the top of those ridges—the ammoniacal and other gases produced from the fermentation passing perpetually through the soil in conjunction with a hot and burning sun darting his rays perpetually upon the surface—I ask under such circumstances where is the moisture to give succour to a plant? Why, it is evident that whatever moisture might be incorporated with the soil is almost immediately driven off by the caloric, thus leaving the plant void of its most essential support, it (the turnip) being a succulent plant, and requiring for its support a greater degree of moisture than almost any other which Nature has to produce. Thus the farmer by the worst of systems destroys his crop, or rather uses the most potent means to do so, and then his efforts proving abortive from his own inadvertence, the cause is immediately cast upon the poor, innocent fly, which as a friend to man is sent to carry off the injurious effects which otherwise might be produced by so great a quantity of vegetable matter undergoing decomposition.

Thus in the drilling system, and in numerous others I could mention would time and space allow me, we may perceive the innumerable causes which always precede the fly in its ravages. What I have so far advanced will, I hope, in some measure contribute to the removal of that most erroneous opinion, that various manures produce the insect which feed upon plants in the vicinity of such manures.

Returning to the subject-matter of our controversy, Mr. Milburn makes mention of his apple-tree as being attacked by the insect. Would he say that that tree was as healthy as any other in his garden or orchard? Further, he says it was a fruit-bearing tree; so it might be, but was it as fruitful as the other trees which were not attacked?

In regard to the geranium, he mentions that he got his friend to examine it, who, as he says, pronounced it perfectly healthy; but will Mr. Milburn say that it always had been healthy? It might be healthy when his friend examined it, but that does not say that it had never been diseased. Its health might have been affected, and it might have been attacked by the fly, and still have had the power of resuscitation. Will he say positively that that geranium was not affected in its health by the incongenial night air to which it was exposed, or by some other cause? I am sure his good sense will not allow him to deny such self-evident facts.

To recapitulate.—I have endeavoured to show how far the application of manures in a certain state may have a tendency to promote disease in plants, and the various systems, particularly the drilling, which tend to deprive the plant of moisture; consequently from those causes and various others, which time and space will not allow me to enumerate, the plant becomes diseased, and then the fly feeds upon it. This much, I hope that what I have advanced will in some measure be convincing, that before the fly commences its ravages those ravages are always preceded by a variety of causes all tending to deprive the plant of its vitality.

To conclude.—If Mr. Milburn can overthrow these potent facts, which all tend to show that the

cause of the failure was not in the fly but in the various causes affecting the health of the plants I should be obliged—otherwise, I must consider what he has so far advanced as a mere nullity.—I remain, Sir, yours most respectfully,

South Normanton, Derbyshire, S. P. GILL.
April 17, 1837.

FARMERS AS THEY WERE, OR WERE TAUGHT TO BE, 300 YEARS AGO.

Extracts from the “Ryghte profutable boke of Husbandry, compyled sometyme by Mayster Fitzherbarde, of charytie and good zele, that he bare to the weale of this mooste noble realme, which he dydde not in his youthe, but after he had exercysed husbandry with greate experyence 40 yeres.

Imprinted at London, in Flete-strete, in the house of Ithomas Berthelet, nere to the Condite, at the sygne of Lucrece Cum privilegio.

A SHORTE INFORMATION FOR A YONGE GENTYLMAN THAT ENTEDETH TO THRYVE.—I wyl advise him to ryse betime in the morning, according to the verse before spoke of: *Sanat, sanctificat, et ditat surgere mane*: and to go about his closes, pastures, fieldes, and specially by the hedges, and to haue in his purse a payre of tables, and when he seeth any thing that wolde be amended to wryte it in his tables, as if he fynde any horses, mares, bestes, shepe, swyne, or geese in his pastures, that be not his owne; and peradventure though he be his owne, he wolde not haue him goo there, or to fynde a gap, or a sherde in his hedge, or any water standyng in his pastures upon his grasse. wherby he maye take double hurte, bothe losse of his grasse, and rotting of his shepe and calves, and also of standyng water in his corne fieldes, at the landes endes or sydes, and howe he wolde haue his landes plowed, donged, sturred, or sowed; and his corne weded or shorne, or his cattell shifted out of one pasture into another, and to loke what dychevng, quicsettyng, or splashing is necessary to be had, and to ouerseie his shepheard, how he handleth and ordereth his shepe, and his seruants how they plowe and do their warkes; or if any gate be broken down, or want any staues, and go not lightly to open tyne, and that it do not traiese, and that the windes blowe it not open, with many mo necessary thynges that are to be loked upon. For a man alwaye wanderynge or goinge aboute somewhat, fyndeth or seeth that is amysse, and wolde be amended. And as soon as he seeth any such defautes, then let hym take oute his tables and wryte the defautes; and when he cometh home to diner, supper, or at nyght, then let hym call his bayly, or his heed seruante, and soo shewe hym the defautes, that they may be shortly amended: and when it is amended then let hym put it out of his tables. For this used I to do X or XII yeres and more; and thus let him use dayley, and in shorte space he will sette moche thynges in good order, but dayley it wyl haue mendyng. And if he canne not wryte, let hym nycke the defautes upon a stycke, and to shewe his bayly as I sayde before. Also take heed bothe erly and late at all tymes, what manner of people resorte and comme to thy house, and the cause of their comyng, and specially if they bryng with them pychers, cannes, tancardes, bottles, bagges, walletts, or bushell pokes. For if the seruantes be not true they maye doo the great hurte,

and themselfe lyttle auantage; wherefore they wolde be well loked upon, and he that hath II true seruantes, a man seruante, and another a woman seruante, he hath a great treasure; for a trewe seruante wyl do justly hymselfe, and if he se his felowes do amysse, he wyl byd them doo so no more, for if they do he wyl shewe his master thereof; and if he do not this he is not a trewe seruant.

A LESSON FOR THE WIFE.—First in a mornyng when thou arte waked, and purposeste to ryse. lyfte up thy hande, and blesse the, and make a sygne of the holy crosse: *In nomine patris, et filii, et spiritus sancti, amen*; in the name of the Father, the Sonne, and the Holy Gooste. And if thou say a pater-noster, an Ave, and a Crede, and remember thy maker, thou shalt spede moche the better. And when thou arte vp and redy, then first swepe thy house, dress vp thy dysheborde, and sette all thynges in good order within thy house; milk thy kye, selle thy calves, sye vp thy mylke, take up thy chyldren, and araye theym, and prouyde for thy husbandes brekefaste, dyner, souper, and for thy chyldren and seruantes, and take thy parte with theym, and to ordeyne come and malte to the myll, to bake and brue withall whanne nede is, and mete it to the myll, and fro the myll, and se that thou haue thy measure agayne besyde the tolle, or elles the myller dealeth not truely with the, or els thy corne is not drye as it shoulde be. Thou must make butter and chese when thou maist, serue thy swyne bothe mornyng and evenyng, and gyve thy poleyn meate in the mornyng, and whan tyme of yere commeth thou must take hede howe thy hennes, duckes, and geese do ley, and to gather up theyr eggs, and when they waxe brodye, to sette them there as no bestes, swyne, nor other vermyn hurte them; and thou must knowe that all hole fowles wyl sitte a month, and all clouen footed fowles wyl sitte but three weeks, excepte a pey-benne, and greate fowles, as cranes, bustards and suche other; and when they haue broughte forth the byrdes, to see that they be well kepte from the gleyd, crows, fully-mattes, and other vermyne; and in the begynnyng of March, or a lyttell afore, is tyme for a wyfe to make her garden, and to gette as many good sedes and herbes as she canne, and specially suche as be good for the potte and to cate; and as ofte as nede shall require it must be weded, or els the wedes wyl ouergrowe the herbes. And also in March is tyme to sowe flaxe, and hempe; for I haue harde old houswyves saye that better is March burde, than Apryll flaxe, the reason appeareth; but howe it shulde be sowed, weded, repyled, watred, washen, dried, beaten, braked, tawed, hecheled, spon, wounden, wrapped and women, it nedeth not for me to shewe, for they be wise ynough, and therof may they make shetes, bord clothes, towles, shertes, smockes, and such other necessaryes, and therefore let thy distaffe be alwaye redye for a pastyme that thou be not ydle; and vndoubted a woman canne not gette her luyngge honestly with spyngyng, but it stoppeth a gap; and must nedes be had. The bolles of flaxe, whan they be ripeled of, must be rideled from the wedes, and made drye with the son to gette out the sedes; howe be it one maner of linsede, called loken sede, wyl not open by the son; and therefore when they be drye they must be sore bruised and broken, the wines knowe howe, and then winowed and kepte drye, tyll yere tyme come agayn. Thy female hempe must be pulled from the churle hempe, for that beareth no sede, and thou must do by it as thou dydest by the flaxe. The churle hempe beareth sede, and beware that byrdes eate it not as it groweth: the hempe thereof is not so good as the female hempe, but yet

it wyll do good seruyce. May fortune sometyne, that thou shalt haue so many thynges to do, that thou shalt not well knowe where is best to begyn. Then take hede which thyng should be the greatest losse, and there begyn. But in case that thyng which is of the greatest losse wyll be longe in doyng, and thou myghteste do thre or foure other thynges in the meane whyle, then loke well if all these thynges were sette together, which of them were the greatest losse, and if all these thynges be of greater losse, and may be all done in as shorte a space as the other, than doo thy many thynges fyrste.

It is conuenyente for a husbnde to haue shepe of his owne for many causes, and than may his wyfe haue part of the woll, to make her husbnde and herselfe some clothes; and at the leaste waye she may haue the lockes of the shepe, eyther to make clothes, or blankettes, or courlettes, or bothe: and if she haue no woll of her owne, she may take woll to spynde of clothe makers, and by that means she may haue a conuenient lyuynge, and many tymes do other warkes. It is a wyues occupation to wynowe all maner of cornes to make malte, to wash and wrynge, to make heye, shere corne, and in time of nede to helpe her husbnde to fill the mucke wayne or doung cart, dryue the ploughe, to lode heye, corne, and such other, and to go or ride to the market, to sel butter, chese, mylke, eggs, chekyngs, capons, hennes, pygges, gese, and all maner of cornes; and also to bye all maner of necessarye thynges belonginge to housholde, and to make a true rekenynge and accompte to her husbnde what she had receyued, and what she hath payed. And yf the husbnde go to market to bye or sel, as they ofte do, he is than to shewe his wyfe in lyke manner; for if one of them shoulde vse to deceyue the other, he deceyueh hymselfe, and he is not lyke to thryue, and therefore they must be trewe eyther to other.

TO KEEP MEASURE IN SPENDYNGE.—Nowe thou husbnde and huswyfe that haue done your diligence, and cure accordyng to the fyrste artycle of the philosopher, that is to say, *Adhibe curam*, and also haue well remembered the old sayng of wyse Solomon: *Quod otiosus non gaudet, cum electis in celo: sed lugebit in eternum cum reprobis in inferno*: Thanne ye must remembre, observe, and kepe in mind the seconde artycle of the sayng of the philosopher, that is to say, *Tene mensuram*; that is to saye in Englyshe, holde and kepe measure; and accordyng to that sayng I lerned two verses at grammer schole, and they be these: *Qui plus expendit, quam rerum copia tendit: non admiretur, si pauper tate grauetur*: He that dothe more expende thanne his goodes wyll exteude, meruayle wyll it be, though he be greued with pouertee: and also accordyng to that sayng speketh Saynte Paule, and saythe—*Juxta facultates faciendi sunt sumptus, ni longi temporis victum breuis hora consumat*, that is to saye, Alter thy faculty or thyne honoure make thyne expences, lest thou spende in shorte space, that thyng which thou shouldest lyue by longe. This texte toucheth every manne, from the hycst degree to the lowest; wherefore it is necessarie to euery manne and womane to remembre and take good hede there vnto, for to observe, kepe, and folowe the same; but bycause this texte of Saynte Paule is in latyn, and husbndes commonly can but littell laten, I fere, leaste they can not vnderstande it, and though it were declared once or twice to them, that they wolde forgette it: wherefore I shall shewe to them a texte in Englyshe, and that they may well vnderstande, and that is this, eate within thy tedure.

TO EATE WITHIN THE TEDURE.—Thou husbnde

and huswyfe that intend to folowe the sayng of the philosopher, that is to say kepe measure, you must spare at the brynke, and not at the botton that is to vnderstande in the begynnynge of the yere sellynge of thy cornes, or the spendynge in thy house vnto the time that thou haue sowed agayne thy winter corne, and thy lente corne, and then se what remayneth to serue thy house, and of the ouerplus thou mayste sell and bye suche other necessaryes, as thou muste needs occupie. And if thou spende it in the begynnynge of the year, and shall want in the hynder ende, than thou dost not eate within thy tedure, and at the laste thou shalt be punysched, as I shall proue the by ensample. Take thy horse, and go tedure him vpon thyne owne lees, flytte him as ofte as thou wylte, no manne shalll saye wronge thou doste; but make thy horse so longe a tedure, that whan thou haste tyed hym vpon thyne owne lees, his tedure is so longe that it receth to the middles of an other mans lees or corne: nowe haste thou gyuen hym to moche lybertye and that man whose corne or grasse thy horse hath eaten wyll be greued at the, and wyll cause the to be amerced in the court, or elles to make hym amendes or bothe. And if thy horse breake his tedure and go at large in euery mans corne and grasse, than commeth the pynder, and taketh hym and putteth hym in the pynfolde, and there shalle he stande in prison, without any meate, vnto the tyme thou haste payde his ransome to the pynder, and also make amendes to thy neighbours for destroyenge of theyre corne. Ryghte so, as long as thou eatest within thy tedure, that thou nedest not to begge nor borowe of noo man, soo longe shalt thou increase and growe in rychesse, and euery man wyll be content with the. And if thou make thy tedure to longe, that thyne owne porcyon wyll not serue the, but that thou shalt begge, borowe, or bye, of other: that wyll not longe endure but thou shalt fall into pouertye. And if thou breake thy tedure, and rea ryot at large, and knowe not other mennes goods from thyne owne, than shall the pynder, that is to saye the sheriffe and the bayly areste the, and put the in the pynfolde, that is to say in prison, there to ahyde tyll the truth be knowne: and it is meruayle if thou scape with thy lyfe; and therefore eate within thy tedure.

A SHORTE LESSON FOR THE HUSBNDE.—One thinge I wyll aduise the to remembre, and specially in wynter tyme, whan thou sitteste by the fyre, and hast supped, to consider in thy mynde whether the workes that thou, thy wyfe and thy seruantes shall do, be more auauntage to the, than the fyre and candel lyghte, meate and drynke that they shall spende, and if it be more auauntage, than syt styl: and if it be not, than go to thy bedde and slepe, and be vpp betyme, and breake thy faste before day, that thou mayste be all the shorte wynters day about thy busyness. At grammer scole I lerned a verse, that is this, *Sauet, sanctificat, et ditat surgere mane*. That is to saye, erly rysynge maketh a man hole in body, holer in soule, and rycher in goodes, and this me semeth shuld be sufficient instruction for the husbnde to kepe measure.

ABOLITION OF TITHES IN ONE OF THE SWISS CANTONS.—Adices from Soleure (Switzerland), dated the 10th ult., announce that the Grand Council of that Canton had decreed the abolition of tithes. This decision, taken by sixty-four against thirty-three, had excited a great enthusiasm in the country. —*Moniteur*.

MANGEL WURZEL.

Having for many years been a grower of this root, I have often been asked which I preferred—this, or Swedish turnips. My answer has invariably been that for some purposes I prefer one, and for some the other. For stall-feeding till the spring, turnips are the best; but at that season, the turnips having lost a great portion of their nutritive quality, and the mangel wurzel from keeping having lost much of its watery particles, and thus improved, I then prefer the latter. It ought in fact to be kept till the turnips are all consumed. Had our winters of late been as severe as they used to be in former times, mangel wurzel would have been thought more valuable than it hitherto has been. It must in any winter be worth at least seven shillings per ton—to be consumed on the farm—a crop of thirty tons, ten guineas per acre. Admitting expenses to be in most seasons (not in all) 30s an acre more than Swedish turnips, it leaves nine pounds an acre, which is more than Swedish turnips are scarcely ever valued at. Should it be unquestionably proved (which I think it might,) that a given weight of mangel wurzel will produce as great or a greater weight in the animal which consumes it, than the like will of Swedish turnips, the cultivation of it would be of course much increased. All herbaceous animals are fond of it; and game, and poultry. Those who have not a good depth of mould, free from couch, and a good supply of manure, had better not attempt the cultivation of mangel wurzel. If the land can be made tolerably fine, it will grow on stronger soils than is generally supposed it will, and where Swedish turnips will not grow to be of any worth. Turnips will keep stacked and buried all winter, but they do not improve by keeping as the mangel wurzel does; it is not the general custom to take turnips up, as it is for the mangel wurzel, which, in case of a long and severe winter, supplies the demand for succulent food in the highest perfection for beasts—and for lambing ewes in the spring, filling them with more milk than turnips will, besides which, when sheep have been used to it, they like it better than any other root, or cabbages. It should be dibbled or drilled, less than an inch deep, on Northumberland ridges, twenty-seven inches asunder, the latter end of April or first week in May; and left when hoed, each plant about fourteen inches apart. Any deficiency in the crop to be made up by plants (not too small), put in when the land is wet, with the roots not doubled up, and an inch or more of the top part of the root left out of the ground; if the whole of the root is put in (as planters are apt to do,) a good root will not be obtained, shoots will come from the top, and on taking the root up in the autumn, it will be found with a great deal of top, and a poor root, full of fibres.* My practice has been to soak

* I have the ridges for mangel wurzel set up as high as possible, that full two-thirds of the root, when at its full growth, should, after being pulled down with the hoe, be out of the ground. I have a very light wooden roller run over the ridge to flatten the tops of them a little before putting in the seed. I do not want the ridges so high for turnips; drought has more effect on them. In hoeing mangel wurzel or turnips, the ridges may be much pulled down, but afterwards set up with a double mould-board horse hoe, which will not—as it ought not—push the mould up again to the roots, but will well cover the

the seed till it sprouts a little, not too much, for should the weather prove to be dry, there is danger of the shoots dying, and the plants being lost. Drilling takes treble the quantity of seed that dibbling does, but as drilling is the surest way of getting a crop, it is prudent not to let the extra quantity of seed be a consideration. Dibbling in single seeds, $3\frac{1}{2}$ inches apart, and thinning the plants when the size of a radish, which are then useful for pigs, is a good plan. After trying many various ways of cultivating it, I have this season (May 11th, 1836), dibbled the seed in holes made by a boy, pressing down by a handle about four feet long, on the centre of the ridge, a piece of wood, 16 inches long, and about $\frac{1}{4}$ broad, with three pegs in it, seven inches asunder, to make three holes, about an inch deep; one seed put in each hole, (two, if the seed does not appear very good); the top of the ridge being made fine with a small rake, the plant which is at first very feeble, is thus enabled soon to get its head above ground. All under-ground grubs will, from its sweetness, attack it from the time the seed vegetates, till the plant becomes the size of a radish; and many plants are frequently eaten off, just at the top of the ground, when they have become as thick as a carrot. I never before failed in my mangel wurzel crop as I have failed this year. That part of it sown about the middle of April will be a fair crop, but the rest sown in May only came up after the rain on the 22d June, and then a great part of it was eaten off in the ground by a grub, or sort of worm, which is found coiled up, but when straightened out is of this length and thickness. By letting the plants that have not been eaten stand at half the usual distance, and filling up the failing ridges with transplanted mangel, and turnip seed, I do not despair of having a fair crop of useful green food. It is the usual custom to manure at the time of sowing; and so it is likely to continue, because the land is not till then in proper order to have the manure applied to it; but mangel wurzel will do the best when the manure is incorporated with the soil; the ridges then can be better formed, the mould does not so run down from them; besides which they then lie on a loosened subsoil, instead of one trodden hard by the horses. The best crop I ever had was after a carted-off crop of Swedish turnips, without any other manure than was given to the turnips. I, and all others who saw the crop, thought it as fine a one as could possibly have been seen; still, however, it did not come near the reported weight of some crops, being *only* fifty tons per acre. The marble kind will produce the greatest weight, but I cultivate the blood-red, which is more like beet; it as a less proportion of water in it, and therefore must possess more fattening qualities. The yellow, from an experiment made for me by the celebrated Andrew Knight Esq., is the most nutritious of all. Mr. Knight found it to possess five and twenty per cent. more saccharine and nutritious matter in it than the marble kind. Any person putting a bit of it in his mouth will find it, although sweet of very acrid flavour. But as it will not grow to a large size, and as many of the plants are apt to run all to top, I do not continue to cultivate it. All the side leaves of a crop may be stripped off, after August, without doing any injury, if wanted for

dung, and thus keep it moist; the fine fibrous roots, being thus cut off in hoeing, will shoot again, and gain nourishment from fresh earth.

sheep or pigs. Roots are often exhibited of the marble kind as very fine ones, but which in my opinion are not; they are large, but generally a very great part of the weight of the root consists of a neck, which is hard, and has little, if any nourishment in it. My blood-red kind, which does not produce the quantity of leaves as other sorts do, and therefore may stand nearer together, is nearly as good at the very top of the root as it is at the bottom. Information has lately run the round of the newspapers, that steamed mangel wurzel leaves are good for sheep. Ever since I have been a grower of mangel wurzel my sheep have eaten the leaves with such great avidity, without any cookery, that I have found it necessary on their first having them, to give them a limited quantity, for the leaves being of a very succulent nature, they are apt at first to make them scour. It is best to give them the leaves in a field where there is good fair keep, for as sheep like variety in their food, they will not then eat too many. Steamed potatoes are certainly much better than raw ones for feeding cattle or pigs, but useful as a steam apparatus at times may be, the practice of steaming may be carried too far. A late breeder, and amateur farmer of this county, the year before he died, had his hay so spoiled by continual rains (flooded I believe), that his cattle would not eat it till it had been steamed; in this manner the unwholesome food for all cattle, but particularly for the young, was consumed, the consequences were that the purchasers of the cattle (of whom I was one,) found on their being slaughtered, that they had ulcers in their insides; I have no doubt this was the consequence of their having eaten the bad steamed hay. My practice in getting up mangel wurzel is thus:—two men or boys take a row each; by placing their hands on the crown of each root, and at once pulling down, they strip off every leaf, which they throw into the furrow between them: two more go on each side of them, and throw the leaves into the same furrow. The roots of the two rows are pulled up by hand, to prevent dirt going amongst the leaves; all the other rows are got up with the double mould-board plough, with the shell-board off, and thrown into rows convenient to be carted off. If the land is not wanted for wheat, the leaves will keep, as they have been laid in rows, a long time without rotting; if it is wanted, they will keep by being put between a hedge and a row of hurdles set up about a yard from a hedge. The leaves may be most usefully disposed of by being thrown on land, for sheep, immediately after it has been sown with wheat; the solidity of the land, from the treading of the sheep, is good for the crop. Or thrown on the wheat when it has been up some time, and got firm hold in the land: but not when it first comes up, for then the treading of the sheep will bring the roots above ground. I think if a stack was made of layers of good sweet straw and layers of leaves, they would keep well so, and that the whole stack would be most useful winter fodder for beasts in the fold-yard. I mean therefore this autumn to try this method. After having finished sowing mangel wurzel this year (1836), I find I could still improve the preparation of the ridges by again loosening the subsoil by a grubber drawn by one horse after the manure has been spread in each furrow, the bottoms of which have been hardened by the treading of the horses and the cart wheels. It is not safe, on account of the risk of a sharp frost, to let the roots remain longer in the earth than the latter end of October. For fear of a severe winter they are better pitted

than housed, for if once frozen they are injured in their quality, and very likely to rot in the pit or stack they are kept in. My pits are dug two or three feet deep, and about twelve wide. In these the roots are stacked and ridged, up to the height of about ten or twelve feet from the surface of the earth; faggots should be set upright about every two yards in the centre of the pit, and continued up to the roof of it, all along which faggots should lie. By this contrivance all the heat or effervescence which may arise from the roots will be carried off, and rotting be prevented. The stack then must be covered with dry straw or haulm; then covered with mould, allowing a little time for heat to escape before completely covering the top for the winter store. It will thus keep in perfection till May, when it is often as much wanted as at any other time, or it will keep till June. It is proper for milking cows, but must not be given in too large quantities; it does not give any unpleasant taste to the butter, as turnips do; this, however, may be prevented by the following management. The week previous to giving cows turnips, when churning save a couple or three quarts of buttermilk. The earthen pot in which the cream is usually collected, should be scalded, dried, and put before the fire to make it quite hot; when hot put the buttermilk into it in order to make it sour; the morning and evening cream to be put to it, and then kept till churning. A small quantity of saltpetre is put into the cream. The small quantity of buttermilk to be saved every time after churning, and the same process repeated. The turnips to be well cleaned, tops and roots cut off, and no decayed turnips to be used on any account. The introduction of this valuable root has been the means of wonderfully increasing the quantity of animal food produced in this country, and of keeping the price of wheat more equal throughout the year, which is proved by its unusually high price at this time (April, 1836,) after nearly a failure of the last year's crop of Swedes.—*Hilliard's Practical Farming.*

A VALUABLE GRASS.—There has been recently presented to Messrs. Drummond's Agricultural Museum, Stirling, (in whose neighbourhood it is undergoing trials on a small scale,) by a friend in Glasgow, a sample of grass seed, under the name of *Franc foin*, which has arrived from Canada, with the following particulars:—"The *Franc foin* is a perennial grass, and, with our connoisseurs, is considered a superior grass to the Timothy, being more nutritious, retaining its verdure and moisture much longer than the Timothy, and is less searching or deteriorating to the soil. Without attempting to decide this point, I have only to say that our Canada farmers consider a mixed crop of these grasses (*Timothy* and *Franc foin*) preferable to either separately, as it furnishes an excellent, healthy, and nutritious provender, whether for horses or oxen; they are sown together in the proportion of 1lb. of *Franc foin* to every 4lbs of *Timothy*. Such is the value set upon this hay, that, in 1835, a premium of 5*l.* was offered by the district of Quebec Agricultural Society to the farmer who raised on his farm 50lbs. of this seed, besides taking the seed at 2*s.* per lb. I would therefore recommend it to the particular attention of our Scotch farmers, persuaded that it requires only to be known to be brought into general use.—*Quebec, 17th Nov. 1836.*"—*Stirling Journal.*

STATE OF AGRICULTURE.

(Delivered before the Commons' Committee on Agriculture, 1836.)

EVIDENCE OF MR. THOMAS BOWYER.

Is a farmer—Condition of Farmers about the same as three Years ago—Wheat Produce has increased—Prices have diminished in consequence—Removing Local Taxes and the Malt Tax would benefit Farmers—In Huntingdonshire the Farmers are badly off—Very much in Arrear—The best Turnip Land would pay at 5s a bushel, but no other—The Condition of the Farmer much better twenty Years ago—Draining has increased and will increase the Supply of Wheat—The Commodities necessary for the Labourer have much fallen in Price.

What quantity of land do you occupy?—Two hundred acres of arable land, and about the same quantity of grass land.

Do you consider the condition of the farmer improved since 1833?—No: I think it is much the same as in 1833.

Has there been any increase in the produce of wheat upon your own farm?—There has been a great increase in the last three years.

Should you say, then, that the low price of wheat might be attributed partly to the increased production of wheat, and partly to the quality of the wheat producing an increased quantity of flour?—The low price of wheat I consider to arise partly from the increased production and partly from the extra quantity sown; there has been a greater breadth considerably the last three years than in any year since I have been in trade.

Should you say that there was any diminution in the demand for wheat?—None.

Have the expenses of your farm been reduced with the last three years?—Yes, rent considerably.

Have there been many farms out of occupation in your neighbourhood?—A great many have changed hands, and there are several now out of occupation.

When they have changed hands, have the succeeding tenants been men of capital?—No, not in all cases.

Do you consider that agriculture in your neighbourhood is not carried on by men of capital?—No, in a number of instances it is not.

Can you suggest any mode by which the condition of the farmer could be improved?—Except by removing the local taxes, or assisting him in the malt tax; I know of no other mode.

Mr. HANDLEY.—Can you speak to the quantity and quality produced upon that land?—Yes, the strong clay lands of Huntingdon are now nearly all drained, and in a much better preparation to grow barley; the great proportion is drained with tiles, and the custom is to sow it much earlier; nearly half the barley for this year I should think is now sown, a thing I never before knew, and the increased breadth of the barley will be extraordinary.

Mr. HEATHCOTE.—You say that at present there is a considerable demand for malt, but do you think under common circumstances, the cold clay land you speak of would be suitable for growing barley?—Yes, I do not say that it would grow so much barley as the best turnip land, but it would be equal in quality.

Mr. MILES.—What quantity of barley have you averaged in the last three years upon the clay land?—I should think four quarters and a half.

Has that been remunerative to the farmer?—

It has to farmers who have had their rents reduced, on that portion of their farms.

Mr. CAYLEY.—What is the condition of the tenantry generally of Huntingdonshire?—They are at a very low ebb indeed; I think nearly half of them almost have nothing.

They are in arrear very much?—Very much.

Can they pay their bills better now than in 1833?—No, they cannot.

How are the rents paid?—Badly.

Are rents, or bills paid the best?—Rents I think.

Is it your opinion that in order to pay his rent the farmer neglects to pay his bills?—If a farmer is under a gentleman that he wants to continue under he will pay his rent and leave his bills, but if he has made up his mind to leave, he will pay his bills and leave his rent.

How much land is there in Huntingdonshire that would pay a rent at 5s a bushel for wheat?—I think the best turnip land would pay a rent at 5s a bushel; but the light wood land would not pay a shilling, and I question whether the clay land would.

What proportion do the different classes bear to each other?—The strong clay is the larger proportion, and the turnip land is nearly one-third.

Comparing the present time with twenty years ago, which is the best for the farmer?—Twenty years ago, considerably.

Do you think it was better for all parties connected with the land?—Certainly, twenty years ago was far superior to the present time.

Sir JAMES GRAHAM.—You mentioned tile draining, has it lately been introduced into those counties?—It has been introduced some years, but not to the extent it has been the last three years; it is now very great.

Since 1833 a very great breadth of these strong lands has been drained?—Yes.

Does that affect the produce of those lands?—Yes, it produces more from being kept drier in the winter.

Does it render you less dependent upon the variation of seasons?—Not much.

Then, in a series of years this extensive draining will add materially to the average produce?—Yes and improve the quality also.

And consequently it will diminish somewhat the cost of production?—It will.

And it will render a less price, a remunerating price, whether it be for barley or for wheat?—In proportion it will; the cost of production must be very little less, but still it will be less, inasmuch as it will produce more per acre at the same expense.

If you take a farm upon lease, you calculate upon the variation of the seasons, and anything which shall render the produce more certain and less variable is, in a series of years, equal to an increase of production?—It is.

Mr. WOODHOUSE.—Has the breadth of Wheat increased in other parts of Huntingdonshire besides the fen land?—Yes.

Has that been the case in Cambridgeshire?—Yes.

In Northamptonshire?—Yes.

And in Bedfordshire?—Yes.

Mr. MILES.—Have the different commodities necessary for the labourer fallen very much in price?—Bread is the principal one, and that has fallen.

Articles of clothing?—They are much lower.

Mr. EVANS.—Has there been any economy in agricultural labour by the introduction of threshing machines?—There is a great deal of corn threshed by machine, which certainly supersedes manual labour very much.

And so far it is economical?—Where all the hands can be employed, it is economical; but where there is a surplus of hands, it is not economical, because they must be maintained by the parish.

STATISTICAL ACCOUNT OF SCOTLAND.—No. XIII., February, 1837. Blackwood & Son, Edinburgh; Cadell, London.

This is a most valuable publication, and should find a place in every well-regulated library. The present number contains part of the County of Haddington, and part of the County of Fife, with a beautiful map, engraved by Lizars, of the Counties of Fife and Kinross. We give the following quotation as a specimen of the mode in which the work is conducted:—

“The late Lord Minto introduced over his whole property an improved state of husbandry, from Roxburghshire, about twenty years ago. David Wemyss, Esq., of Pitkenney, when he became possessed of his property in this parish, found it in a very rugged and unproductive condition, yet capable of right culture, and of producing good crops. With other proprietors, he took an active part in deepening and straightening a burn, which obstructed the agriculture of a large district, and affected the north side of his property. Here he succeeded completely, by draining effectually the parts contiguous to the burn, and also by providing sufficient levels for all the other arrangements. The chief ingredient of the soil is clay. The surface was a good deal encumbered with stones, many of them of an unwieldy size, but all obstacles have been surmounted, and by a liberal encouragement to his tenants, and by a judicious superintendance, the farms are well drained, well enclosed, and well cultivated. Upwards of twenty years ago, the late J. Reddie, Esq., of Redhouse, planted a large piece of peat moss, of about fifteen Scotch acres with Scotch firs. The ground was previously drained and levelled; and although the moss be in several places upwards of seven feet deep, of a substance entirely moss, yet the trees have thriven, and now the place formerly so gloomy and ugly, presents a pleasant prospect of verdure and utility; and the surrounding grounds, formerly marshy and insalubrious, are become wholesome.

“A good many years ago, Robert Ferguson, Esq., of Raith, took under his management a tract of ground, at that time remarkably ugly, almost waste, and very unproductive. This he has converted into an arable farm, and adorned with thriving plantations. The farm itself is well enclosed, well cultivated, and very productive. It rents, I understand, at the rate of 1*l.* 5*s.* the acre. The extent is 200 acres; and it is pleasant to learn, that while the country is hereby improved, the original improver has already been indemnified for outlays, and continues to draw very good interest for his money. The name of the farm is East Cardon. What a benefit to a country are resident proprietors!”

ON THE PURIFICATION AND CLASSIFICATION OF SEEDS, ROOTS, &c.

(FROM LEWIS'S OBSERVATIONS ON EXPERIMENTAL FARMING.)

It has been already stated that farmers are extremely cautious, and even backward, in the adoption of anything *new*. Potatoes, for instance, although brought into England about the end of the 16th century, were long confined to the gardens of the nobility and gentry; and in Scotland were not planted in the open fields until the year 1792, upwards of 200 years after their first introduction. So prejudiced, indeed, were the Scottish peasantry against their admission, that they attributed the origin of every disease, no matter of what nature, to the influence of this vegetable. Turnips, also, although known in Britain before the potatoe, did not come into general cultivation until long after the days of Tull, a Berkshire agriculturist, who introduced the system of drill husbandry in the year 1701. He obtained very few followers for more than 30 years, and Scotland was the first to reduce his system to practice. In 1760 it was there in pretty general adoption. Hence it was introduced into Northumberland in 1780; and it has since slowly found its way into the more southern parts of the island. Such has been the introduction of two of the most valuable roots that are now in cultivation; and assuredly we could not have well adduced a stronger practical illustration of the probable usefulness of an experimental farm for promulgating a knowledge, and expediting the culture of those vegetables whose qualities and merits have been previously untested, or partially ascertained.

The introduction of potatoes and turnips, it may be said, took place when education was at a very low ebb, and when the supineness of our agriculturists was at its height, and therefore that any deductions drawn from this subject are inapplicable now. But we shall shortly make it more than probable that, even with all the science and enterprise of modern times, there is yet a wide field of discovery lying before us, and which hitherto has been almost wholly neglected.

We allude more particularly to the classification and purification of seeds. Individuals no doubt have at different times directed their attention to this subject, but their labours, instead of remedying the existing defects, have only tended to shew the almost unlimited extent to which improvement in this department might be carried. They have failed, not from the unfruitfulness of the subject, but from the inadequacy of individual exertion for the task, and their failure is a powerful practical argument in favour of a combined and collected effort for the full development of the latent and hitherto dormant susceptibilities of the vegetable kingdom.

The grand distinguishing characteristic of plants over inorganic matter—that which characterises their latent powers and living functions—is their susceptibility of improvement; animals have it to a certain degree, but not nearly to such an extent as plants, for the productive faculty of the former cannot be increased like that of the latter. As is well remarked by Mr. Sharon Turner, most agreeable and surprising transformations have arisen from this property. The rose is the product of cultivation; the original plant from which all our beautiful varieties have proceeded is considered by botanists to be the common wild briar. Our plums are cultivated descendants of the sloe; the peach and nectarines of the common almond tree; filberts are the improve-

ments of the wild hazel: the delicious apples, whose species may now be reckoned by hundreds, are the cultivated successors of the small austere crabs and wildings which swine will scarcely eat; the original pear is a petty fruit as hard and crude as the former; our cauliflowers, cabbages, and other domestic vegetables, may be regarded as almost artificial products, so much has human skill had to do in their production.

If, then, so great a susceptibility of improvement exists in the productions of horticulture, it becomes a question of great interest and momentous importance to ascertain whether or not the different species of grain, roots, and grasses, employed in agriculture are possessed of a like inherent susceptibility. It is a well known fact that grain, if allowed to degenerate, returns into a state very similar to that of some of our coarser grasses, which of itself is a very strong argument for the point at issue. But we have still more unequivocal evidence that, even in what may be denominated its present improved state when compared with the inferiority of its supposed original, it is possessed of the principle of productiveness to an extent fully as great as the vegetables mentioned in the above quotation. To prove this we shall insert the following statement, being the result of the experience of Colonel Le Couteur, one of the deputies from the island of Jersey. Three years ago this gentleman became acquainted with Professor Le Gasca, one of the most celebrated botanists of Europe, who had been curator of the Royal Gardens at Madrid, and obliged to leave Spain, where he is now again restored to his friends and former situation. The Professor was then growing about eighty sorts of wheat in the garden of Mr. Saunders, nurseryman in Jersey. The variety, classification, and beauty, struck Colonel Le Couteur, who sought to procure all the information he could from Professor Le Gasca. The latter told him that for the last twenty-five years he had been employed in studying the properties and characters of wheat, and had collected in the Royal Gardens nine hundred varieties and subvarieties. He came to Colonel Le Couteur's farm and picked more than twenty sorts out of three fields then (in August) growing, and gave daily all the instruction and information wanted by Colonel Le Couteur, who resolved to profit by such an opportunity, and began seriously to cultivate the important plant of wheat, so as to procure the several sorts distinct from each other, and keep notes of the experiments made on the culture, produce, weight of the grain, and qualities of the corn, flour, and straw.

Colonel Le Couteur has kept a most minute account of his experiments, and taken the greatest care to preserve the best sorts in their purity. He has in London nineteen varieties of the greatest beauty, and such as the frequenters of Mark Lane say could not be matched in England for purity.

The Colonel, after three years' experience, has arrived at this conclusion—that the proper mode of cultivation of wheat is yet unknown or unpractised.

That it is of consequence to keep the several sorts to grow apart, because they all ripen at different periods, and that bread made of ripe and unripe corn could neither be so wholesome nor nutritious as when made of ripe corn without the mixture of that which had not been well ripened.

That each sort will thrive best on a particular soil and situation adapted to it.

That one ear of a particular variety, sown grain by grain, and suffered to tiller apart, produced 4 lb. 9 oz. of wheat; whereas another ear of an inferior sort, treated in the same manner, produced only 1 lb.

13 oz. Hence it is of importance to select the sorts that are the most farinaceous and productive.

That by sowing each sort apart, they might be easier saved and harvested in rotation, some sorts ripening a fortnight before the others. That the same quantity of wheat of a farinaceous kind may maintain a family of fifteen persons twelve months, where the same quantity of another kind, though apparently fine corn, will maintain them only nine months.

The following extract from an article by Mr. Gorrie, in Messrs. Drummond's third report, will show that nature has been equally profuse in presenting to the attention of the farmer an ample variety of plants wherewith to improve his meadows and pastures:—"Out of more than two hundred grasses suitable to our climate, it may be said that only one genus, the rye-grass, has as yet received general culture. From among sixty species of clover, only three or four species receive general attention. Of the genus lotus, sixteen species are hardy, and in waste lands two species contribute to enhance the value of the pasture, but in agriculture they are seldom noticed. The species of melilot are as numerous, many of which vie with our common clover, and form excellent substitutes when land is clover sick, yet that genus is almost quite neglected. The same may be said of many species of vicia, lathyrus, orobus, medicago, and other diadelphous plants, which point out the apathy and remissness of the farmer. Hence it is obvious that agricultural societies, as hitherto conducted, however efficient in other departments, have failed in exciting sufficient attention to the nature of vegetables."

These statements demonstrate most satisfactorily the vast capabilities which exist in the living functions of grain and grasses, and the successful results of horticulture go far to establish the existence of a like susceptibility in the roots available for agricultural purposes. Indeed, the selection and propagation of improved agricultural seeds has till lately been very little attended to. But the subject has been taken up by Mr. Sinclair, of New Cross, Mr. Sherriff, of Mungoswells, Mr. Gorrie, of Rait, and others; and we have little doubt some greatly improved varieties of our more useful field plants will be the result. Mr. Sherriff mentions (*Quar. Jour. Ag.*, vol. i. page 366) that the variety of the Swedish turnip cultivated in East Lothian had, by judicious selection of roots from which seed was saved, been improved in nutritious value upwards of 500 per cent. "Potatoes and Swedish turnip," Mr. Sherriff says, "appear to be susceptible of farther improvement by judicious selection, as well as the different grains so long cultivated in this country, and which in almost every instance have become spurious. But whatever may be the degree of improvement of which the agricultural produce of the country is susceptible, by the propagation of genuine seeds of the best varieties of plants, one remarkable feature of such an improvement is, that it could be carried into effect without any additional investment of capital, or destruction of that already employed.

The facility of propagating genuine seeds will become manifest from a statement of my practice. In the spring of 1823 a vigorous wheat plant, near the centre of a field, was marked out, which produced 63 ears, that yielded 2,473 grains. These were dibbled in the autumn of the same year, the produce of the second and third seasons sown broadcast in the ordinary way; and the fourth harvest put me in possession of nearly forty quarters of sound grain. In the spring of this year I planted a fine purple top

Swedish turnip that yielded (exclusively of the seeds picked by birds and those lost in thrashing and cleaning the produce) 100,296 grains, a number capable of furnishing plants for upwards of five imperial acres. One-tenth of an acre was sown with the produce in the end of July for a seed crop, part of which it is in contemplation to sow for the same purpose in July 1829. In short, if the produce of the turnip in question had been carefully cultivated to the utmost extent, the third year's produce of seed would have more than supplied the demand of Great Britain for a season.

Plants and animals equally belong to the class of organic beings—both are endowed with sexual organs, from whose germs an offspring proceeds, which in its turn exercises a propagating power; so that in taking a comprehensive view of the subject of agricultural improvement, and especially of what may be effected through the agency of seeds, we find the same laws to a considerable extent acting in both cases. However important we may deem a knowledge of the subject of the propagation of live stock, attention to the selection of the seeds of plants is no less so, but, on the contrary, is of still greater moment, in as far as it embraces the improvement not only of the herbage which supports the inferior animals, but of those plants part of which forms the direct ingredients of human sustenance. The analogy just adverted to, existing between animal and vegetable life, is exemplified in the sexual union which, under certain favourable circumstances, takes place between varieties of the same species of plant, giving rise to a new race partaking of the properties of both parents, and which is termed hybrid. New hybrid varieties of agricultural plants when suffered to intermingle with the original kind, disseminate their influence around them like cross-bred animals, unrestrained in their intercourse with the general herd, till the character of the stock becomes changed, and consequently deteriorated or improved. In either case, propagation from the best variety alone would be attended with good effects. The principles of propagation in vegetable and animal life are, as has just been hinted, nearly the same; but the propagation of vegetables must exceed that of animals in importance in an economical point of view, as much as the vegetable produce of the country surpasses that of its animals in value. Indeed, animals may justly be considered mere machines for converting our inferior herbage into a higher species of nutriment; grasses and roots being likened to the raw material, butchers' meat to the manufactured commodity.

The importance of attending to varieties of cultivated plants has been ably pointed out by Mr. Bishop, at once a scientific botanist and an experienced practical gardener. "By means of varieties," he says, "the produce of our gardens and fields are not only increased in a tenfold degree, but the quality of the produce is improved in a still greater proportion. In them we perceive the labour and assiduity of man triumphing over the sterility of unassisted nature, and succeeding in giving birth to a race of beings calculated to supply his wants in a manner that original species never could have done. The difference between varieties that have sprung from the same species fits them for different purposes, and for different soils, situations, and climates. Some, by reason of their robust nature, are winter vegetables; and others, by being early, are spring vegetables; while some are in perfection in summer, and others in autumn. The fruit produced by some is fit to eat when pulled off the tree; while the fruit of others is valuable by reason of its keep-

ing till that season when nature rests to recruit her strength. Thus, in edible plants and fruits, we are supplied with an agreeable change throughout the year, from a difference in varieties that have sprung from the same species. In the earlier ages of the world, no idea could have been entertained of the excellence some varieties have attained over their originals. Who, upon viewing the wild cabbage that grows along our sea-coast, would ever imagine that cauliflower or brocoli would have been produced by the same? Or who would expect the well-formed apple of a pound weight from the verjuice plant in our hedges? Many instances might be noticed of original species that are scarcely fit to be eaten by the beasts of the field, the varieties of which afford a nutritious and wholesome food for man. Upon comparing the original variety of the *Daucus carota*, the *Pastinaca sativa*, and some others indigenous to our climate, with their varieties produced by culture, we are struck with their great inferiority, and cannot help reflecting on the hapless condition of that hungry savage who first taught us their use; for nothing short of the greatest privation could ever have led to that discovery. Indeed, nothing is more obvious, upon comparing original species with their varieties produced by culture, than that we, by means of the latter, enjoy a vegetable food far preferable to our forefathers—a circumstance, from which it may be inferred that posterity is destined to enjoy a better than that which we do now. For although it is reasonable to believe that there exists a degree of excellence attainable by varieties over the species whence they have sprung, yet as that degree is unknown, and as it is probably beyond the power of man, of cultivation, or of time, to determine the same, we are justified in regarding it as progressive, and in considering the production of a good variety as the sign or harbinger of a better.

The power of distinguishing varieties, and of forming some idea of their worth at sight, is an attainment much to be desired, because valuable varieties may sometimes appear to those who have it not in their power to prove by trial; and if they have, the probability is, that the means to be employed require more care, time, and attention, than they are disposed to bestow on plants, the merits of which are doubtful; whereas, were such persons capable of forming an estimate of the worth of varieties from their appearance, then would they use means for their preservation, whenever their appearance was found to indicate superiority. That this is an attainment of considerable importance will be readily allowed; yet, that it, in some cases, requires the most strict attention, appears from the circumstances of varieties being oftentimes valuable, though not conspicuously so. Let us suppose, for instance, that in a field of wheat there exists a plant, a new variety, having two more fertile joints in its spike, and equal to the surrounding wheat in every other respect: a man accustomed to make the most minute observations would scarcely observe such a variety, unless otherwise distinguished by some peculiar badge; nor would any but a person versed in plants know that it was of a superior value if placed before him. How many varieties answering this description may have existed and escaped observation, which, had they been observed and carefully treated, would have proved an invaluable acquisition to the community! The number of fertile joints in the spike of the wheat generally cultivated, varies from 18 to 22; and the inhabitants of Great Britain and Ireland amount to nearly the same number of millions: therefore, as the wheat produced in those islands has been of late years sufficient, or nearly sufficient, to

supply the inhabitants thereof with bread, it is evident that a variety with two additional fertile joints, and equal in other respects to the varieties at present in cultivation, would, when it became an object of general culture, afford a supply of bread to at least two millions of souls, without even another acre being brought into cultivation, or one additional drop of sweat from the brow of the husbandman.

The same varieties are not repeatedly produced by culture; if they were there would not exist that necessity for strict observation and skill on the part of the observers, because, if a variety be lost or destroyed we might look forward to its reappearance; or did we possess the power of producing varieties, and of producing them late or early, tall or dwarf, sweet or sour, or just as we might wish to have them, then might we plead an excuse for inattention. But experience shows, that when a variety is lost it is for ever lost, and the slightest reflection cannot fail of convincing us that our power of producing them is most limited. Indeed, our knowledge only enables us to produce those of the intermediate kind, while varieties that confer extension or excellence are as likely to be produced from the seed sown by the humble labourer, as from that sown and treated by the ablest horticulturist, the most skilful botanist, or most profound philosopher of the age. From these remarks it is obvious that the benefits mankind derive from the varieties produced by culture are numerous and important, and that the discovery of those of merit is an object highly deserving of our attention. They also prove more especially that of Colonel Le Couteur, that the development of these is a matter attended with no small difficulty, from the delicacy, the minuteness, and the science with which the experiments require to be conducted, and here the immense superiority of an experimental establishment for the accomplishment of these ends, will appear in a very prominent point of view. Not only could the observations of such men as Colonel Le Couteur, Mr. Gorrie, Mr. Bishop, and Mr. Sherriff be most carefully attended to and practically applied; but by means of the subsidiary associations the whole would be conducted on a scale commensurate to the wants of an extensive country.

By assigning to each variety a distinct space, the different sorts would be kept apart while growing, and a series of accurate observations instituted as each successive development took place during their growth, as well as after they had arrived at maturity, which could not fail to be attended with the most successful and beneficial results. And not only so; by means of the local institutions the situation and the soil best adapted to each might be discovered, and the different varieties would thus not only be purified, but, what is perhaps of equal importance, characterized. In this way the uncertainty at present inseparable from the practical results of every agricultural operation would be removed, for the farmer could select with the most unerring accuracy the particular sorts best adapted to his climate, soil, &c.

It has been objected by some that no single establishment could be made applicable to the variety of soils, climates, &c. of Scotland. This objection, however, may be completely obviated by attending to what may be termed the working machinery of an experimental farm, as fully detailed in the original suggestions. It is there stated that a connected line of communication, by means of lateral branches in every county, is essentially necessary to the success, and, indeed, forms part of the scheme; and we would here farther suggest, that the ground set apart for experiments by these local associations,

and the different museums in connection with them, should be entrusted to the management of an experienced nurseryman or gardener. We have no doubt: that many among this numerous and intelligent class might be found both competent and willing to undertake the task, more especially as the details they would be called upon to superintend are so intimately connected with the subject-matter of their own profession; and, if so, those scientific attainments which have hitherto been confined to a comparatively circumscribed sphere, would be brought to bear upon the rural economy of the country, and the co-operation of individuals would be secured who were in every way qualified both to act as a check and an assistance to the parent establishment—as a check, by testing and verifying the report of the chief manager—as an assistance, by furnishing accurate and scientific statements of the several matters intrusted to their care.

It has been also objected that from the richness and highly pulverized nature of nursery and garden grounds, no just estimate could be formed of a specimen from the grain produced on them. Now, were the method of preparing the soil which we have detailed so fully in a preceding article generally practised and properly executed, it is not too chimerical to expect that the whole arable land of the country would eventually become almost as rich and as highly pulverized as any garden or nursery grounds can well be. As a considerable time, however, even under the most favourable circumstances, must elapse before this can be accomplished, the uncertainty arising from the above cause might in the meantime be easily removed. Suppose, for example, that some particular variety has been discovered, evincing a decided superiority in its apparent productiveness, &c. over the rest, the manager has only to obtain permission from some of the neighbouring farmers (which we are certain would be most cheerfully granted) to allow it a place for trial, on such soils and in such situations as may be deemed best adapted to bring its virtues to the test. By this simple arrangement the peculiar qualities of every variety would be practically certified before it received the recommendation of the establishment, and the nurserymen or gardeners, while they operated as a check and an assistance to the parent establishment, would themselves be operated upon in like manner by those individual farmers with whom they found it necessary to hold communication.

The whole country would thus be converted into one wide field of experimental inquiry, which could not fail most effectually to correct at the true source all those evils which arise from the sudden and frequently injudicious introduction of any new variety of seed. For at present it often happens, as every agriculturist knows, that a newly discovered variety is approved of or condemned not from its own intrinsic qualities or merits, but from the treatment it receives, or the accidental state of the weather during the season in which it might have been introduced. This has been the case with several varieties of oats since the commencement of the present century; and who can tell whether or not the Chevalier barley, which has been lately introduced into this country so rapidly and to so great an extent, would maintain its vaunted superiority over the other varieties if subjected to the ordeal of a series of late seasons.

We shall now briefly advert to the national advantages which might reasonably be anticipated from the operation of such an establishment. In order to perceive these, the annual amount of grain, potatoes,

turnips, grasses, &c., would require to be ascertained.

According to McCulloch the annual consumption of grain in the United Kingdom amounts to 52,000,000 quarters, and the imports of foreign corn in 1831 amounted to 3,541,809 quarters, being the largest quantity ever brought into Great Britain in any one year.

Now assuming that the annual consumption is 52,000,000 quarters, inclusive of seed, and that the annual average of native growth amounts to 50,000,000 quarters, let us advert to the results of Colonel Le Couteur's experiments. There we find one variety of wheat 250 per cent. more productive than another, and it will certainly not be thought unreasonable to assume that the produce might be increased to the extent of 10 per cent., not only on grain, but also on roots, grasses, &c.

We thus perceive that in a national point of view the scheme is pregnant with the most important advantages to the British empire, and therefore well worthy the attention of the enlightened and philanthropic statesman. It may also serve to show how chimerical and crude the theories of those alarmists are, who would terrify us with the dread of a superabundant population. In the language of the eloquent author whom we have already had occasion to quote, "Cultivated produce has hitherto outrun population, and to all appearance will always do so. From the increasing enterprise and science of agriculturists, not only the merits of many of the varieties of grain, roots, and grasses, &c., now in existence and as yet very little known, will be more fully elicited, but new varieties, and even genera possessed of more useful properties than any of those now cultivated, will continue to be discovered. From the facts we have adduced, and the extraordinary phenomena constantly occurring in the vegetable kingdom, this is by no means improbable. Be this, however, as it may, two laws are visibly operating in nature—one that its produce shall always be increasable by human labour and skill. Ordinary but diligent exertions of these have hitherto abundantly sufficed for all that has been needed. Local distress, indeed, may arise from temporary seasons, but never from a failure of the powers of vegetable nature."

USEFUL HINTS TO FARMERS.

(FROM THE JOHN O'GROAT JOURNAL.)

LIME.—The vast mountains of calcareous earth, which occur in various parts of the world, owe their origin, it is supposed, to the destruction of marine testaceous animals, which, in long processes of time, formed these huge heaps. Lime is never found pure, it is always in combination with some other substance, more generally with an acid, but it also enters into the composition of vegetables and animal bones. It has been remarked by some, that the inhabitants of towns or houses built on limestone or chalky foundations are less liable to infectious diseases than those in other situations. The use of lime in agriculture may be attributed to the property it possesses of hastening the dissolution and putrefaction of all animal and vegetable matters, and of imparting to the soil the power of retaining a quantity of moisture necessary for the nourishment and vigorous growth of the plants, hence lime and chalk are found to be particularly useful on sandy soils. Marl is a mixture of lime and clay. The nature of soils may be inferred from their possessing the following properties:—Soils containing much silix are rough to the touch, and scratch glass; those containing

iron have a red, brown, or yellow appearance; those containing a large portion of alumina are unctuous to feel, emit an earthy smell, and adhere to the tongue; and those containing much lime are soft to the touch, and less adhesive than those containing alumina. Every farmer should ascertain the nature of his lime before he uses it in agriculture, as limestone often contains a large proportion of magnesia, which is not only not serviceable to the lands, but is highly prejudicial to vegetation, and *that* lime ought never to be used in which any large proportion of magnesia is found. There is no good soil that does not contain a certain portion of lime, although it is always combined with carbonic acid. Marls are useful in agriculture only in proportion to the quantity of calcareous earth they contain, and unless they contain more than thirty per cent. of lime they are of no value to the farmer, and he had better pay five times as much for a load of lime, at the same distance, than for a load of such marl. The bones of all kinds of animals are formed of lime and phosphoric acid, in the proportion of 48·4 parts of lime and 51·5 phosphoric acid.

SEVERITY OF THE WEATHER.—A comparison of the temperature of twenty-four days, ending the 11th of April in the present year, with the corresponding days in successive years during the preceding quarter of a century:—

	Average minimum temperature.	No. of frosty nights.
1812	34.21—24ths	7
1813	40.11	3
1814	40.14	5
1815	44.9	0
1816	32.23	13
1817	34.3	10
1818	34.17	9
1819	40.23	2
1820	37.3	3
1821	38.	4
1822	38.13	3
1823	36.18	5
1824	31.22	13
1825	register lost.	
1826	..	1
1827	36.1—24th	8
1828	30.14	18
1829	..	3
1830	..	5
1831	..	2
1832	..	2
1833	..	11
1834	..	10
1835	..	5
1836	..	12
1837	25.5—24ths	24

A glance at the above columns will show how very much below the average temperature of the corresponding period in a series of preceding years, is that of the twenty-four days ending the 11th inst.; and it is further remarkable that *there has been frost every night* of this latter period, a circumstance unprecedented in the long series of years included within our calculations.—*York Chronicle.*

In a letter, dated the 15th of April, an intelligent friend thus writes us from the head of Tweed:—“This has been the most severe and protracted winter I ever witnessed; and our flocks are falling daily. Three-fourths of our hill pasture are entombed in deep wreaths of snow. Hill lambing has commenced; but one-third of the ewes are not in a state to bring lambs. I learn from old shepherds that nothing has occurred like it since 1784.”

SALE OF SHORT-HORNED CATTLE.

On Tuesday, the day of the Union Agricultural Society's Show, Mr. Grey, Milfield-hill, exposed a number of short-horned cattle for sale. The number disposed of was 22, consisting of nine cows of different ages, seven one-year-old heifers, and two of nine and eight months respectively, and four bulls, which brought upwards of 600*l*. Of the cows the highest priced one sold at 40*l* 10*s*, and the lowest at 18*l* 10*s*. The year olds fetched from 33*l* to 24*l*; but the heifers of nine and eight months, sold, the former at 14*l*, and the latter at 9*l*. Of the four bulls, the first, four years old, sold at 29*l*, the second, two years old, at 40*l*, the third, one year old, at 43*l* 10*s*, and the fourth, eleven months, at 28*l* 10*s*. As this sale excited very considerable interest among the breeders present, we subjoin a short account of the pedigree of the stock extracted from the sale bills.

The stock sold by Mr. Grey was as follows:—

COWS AND HEIFERS.

1. Josephine, red and white, by Castor (853), dam Jane, by Rhadamanthus (552), &c. eight years old.
2. Britannia, roan, by Kirkharle (2178), dam by Duke of Wellington (231), &c., eight years old.
3. Oriflamme, roan, by Albion (731), dam by Hybla Sirius (598), nine years old.
4. Sarah, white, by Fabius (1989), dam Snowdrop by Jocelyne (1141), four years old.
5. Florence, red and white, by Carlos (1788), dam Fairy by Bonaparte (1762), four years old.
6. Beetroot, red, by Fabius (1989), dam Buttercup by Hector (1104), four years old.
7. Fleur-De-Lis, red and white, by Premier (2449), dam Fatima by Sir Francis (2635), two years eleven months old.
8. Lizette, red, bred by Mr. Booth at Studley, by Ambo (1636), dam Janet by Burley (1766), two years nine months old.
9. Beaufronte, roan, by Tonio, dam by Morning Star (2338), &c., two years ten months old.
10. Strawberry, roan, by Archibald (1652), dam Snowdrop (see Lot 4), one year old.
11. Lila, roan, by do., dam sister to Britannia (see Lot 2), one year old.
12. Florid, red and white, by do., dam Fairy (see Lot 5), one year old.
13. Sister Anne, light roan, by do., dam Sarah (see Lot 4), one year old.
14. Florentina, roan, by do., dam Florence (see Lot 5), one year old.
15. Queen Bess, roan, by do., dam Britannia (see Lot 2), eleven months old.
16. Medusa, roan, by do., dam by Premier (2449), g. d. by Copeland (1871), by a son of Comet, eleven months old.
17. Dolly, roan, by do., dam, pedigree unknown, nine months old.
18. Ellen, roan, by ditto, dam, ditto, eight months old.

BULLS.

1. Archibald, roan (1652), bred by Lord Althorp, by Firby (1040), dam Theresa, by Yorkshireman, g. d. by Sir Peter, g. g. d. by Mr. Matthew Hutton's bull, g. g. g. d. by Cleasby, four years old.
2. Cumillus, roan, by Tonio, dam Cowslip, the property of Mr. Bainbridge, near Durham, by Miner (2317), g. d. by Duke of Wellington (231), g. g. d. by Alexander (21), g. g. g. d. by Bolingbroke (86), two years old.
3. Heart of Oak, roan, by Archibald, dam Oriflamme (Lot 3), one year old.
4. John Bull, red and white, by do., dam Josephine (Lot 1), eleven months old.

The *Aboyne and Cromar Agricultural Association's* competition for seed oats, and rye grass, took place at Tarland on the 21st March, when a great many samples of very superior quality were exhibited—the 1st premium lot of sandy oats weighing 45 lb 5 oz; of early Angus, 44 lb 10 oz; and of Kildrumny oats, 43 lb 8 oz per bushel. The Judges—Messrs. W. Smith, James Morton, S. Innes, and James Robertson—after a very

minute and careful inspection of the samples, awarded the premiums as follows, viz. :—

- For sandy oats. 1. Mr. Colin Cameron, Melgum.
2. Mr. James Donaldson, Bog.
3. Mrs. M'Combie, East-town.
- For early Angus. 1. Mr. Colin Cameron, Melgum
2. Mrs. M'Combie, East-town.
3. Mr. David Cook, Parks of Coldstone.
- For Kildrumny. 1. Mr. Colin Cameron, Melgum.
2. Mr. Jas. M'Combie, Kinaldy.
- For perennial rye grass 1. Rev. Mr. Watson, Tarland.
2. Mr. Chas. Forbes, Pitlillych.
3. Do. do.
4. Mr. Colin Cameron, Melgum.

ON MANURES.

TO THE EDITOR OF THE FARMER'S MAGAZINE.

SIR,—Having long been a subscriber to your Farmer's Magazine, I should be glad to receive information through it or direct on the following subject; a subject of moment to all farmers of turnip soil. I have used bones for the last five years pretty freely, but the high price asked this season by the merchant induces me to try a substitute. I am about to drill in for turnips lime and ashes, with a small quantity of half inch bones and rape dust; lime and ashes I procure at an easy rate, bones and rape dust are very expensive, particularly the former; those, therefore, I wish to use sparingly. I apprehend my drill will drop on the land about six quarters the acre. In what proportion, therefore, should the admixture be? Will the four mix beneficially? If not which of them will? I shall apply quick lime, and intend adding a portion of virgin earth. What portion will be best? Should the lime have become effectual, will the earth be then useful? In addition to the above, I intend before splitting the ridges to spread on about five cart loads of muck per acre. The soil I cultivate varies from light sand to strong loam, but all good sheep lair.

Any other instructions on the above topic will benefit and oblige you, obedient servant,

East Retford,
April 17th, 1837.

AGRICOLA.

SQUIRRELS—THE DUKE OF BEAUFORT'S FORESTERS.—It is a curious circumstance, and not generally known, that most of those oaks which are called spontaneous are planted by the squirrel. This little animal has performed the most essential service to the British navy. A gentleman walking one day in the woods belonging to the Duke of Beaufort, near Troy House, in the county of Monmouth, his attention was diverted by a squirrel, which sat very comely on the ground. He stopped to observe his motions; in a few minutes the squirrel darted to the top of a tree, beneath which he had been sitting. In an instant he was down with an acorn in his mouth, and after digging a small hole, he stooped down and deposited the acorn; then covering it, he darted up the tree again. In a moment he was down again with another, which he buried in the same manner. This he continued to do as long as the observer thought proper to watch him. This industry of the little animal is directed to the purpose of securing him against want in the winter; and it is probable his memory is not sufficiently retentive to enable him to remember the spot in which he deposited every acorn. The industrious little fellow, no doubt, loses a few every year, these few spring up, and are destined to supply the place of the parent tree. Thus is Britain in some measure indebted to the industry and bad memory of a squirrel for her pride, her glory, and her very existence.

STATE OF AGRICULTURE.

EVIDENCE OF MR. JOHN HOUGHTON,

Delivered before the Commons' Committee on Agriculture, 1836.

Receives Rents for many Gentlemen in several Counties—Rents are much reduced—Distress is very great on clay Lands—It would be a Relief to allow Farmers to use Malt free of Duty—Price of Wool is owing to the late Rot and Prosperity of Manufacturers—Many Farmers were ruined by the paper Money—They have done better since 1828—A Farmer with good Security can obtain Accommodation to any Extent—Light Soil not in as great Distress as heavy—Both improved lately by Draining—Chief Complaint in Price of Wheat—Other Produce tolerable—Improvement in Scotland considerable—Wheat grown on Lands waste but few Years ago—No permanent Benefit from Alteration in Currency—Mortgage foreclosed in consequence of low Wheat Price.

MARQUIS OF CHANDOS.—Do you receive rents for many gentlemen?—I do.

In different counties?—Yes.

Name them?—In the counties of Lincoln, Buckingham, Middlesex, Surrey, Berks, Sussex, Northampton, and Suffolk; and value lands also in other counties.

How many years have you been employed in this way?—I commenced farming in the year 1822.

What is the state of the farms on those properties now, as compared with a few years ago?—Rents are much reduced, and particularly in the county of Buckingham. An instance I would prove of a farm, reduced from 1,300*l* a year to 87*l*.

Within what period?—From the year 1814 to the present period.

What is the description of that land?—Principally grass of the best description.

It is one of the best grass farms in the county of Buckingham?—Yes.

At how many years' purchase was that farm sold?—At 29; rather over, but under 30 years' purchase.

That is one of the finest farms in the county?—It is.

Have you not arable farms, in the county of Buckingham, over which you are the steward?—Yes, I have.

What is their state now compared with the state of the grazing farms to which you allude?—On the heavy clay lands the distress is very great, more than it is on the turnip and barley lands, or grass land.

How do you account for that distress upon the clay lands?—From the low price of wheat.

Do you find that the capital of the farmers has been diminishing?—Certainly, I think the great distress has been on the heavy land farms.

Have the farmers been paying their rents out of their produce, or out of their capital?—If you take the heavy clay land, certainly out of their capital.

Have the goodness to state to the committee what your opinion is as to the mode of relief which could be brought to bear on the present distress?—The commutation of tithe would be a very great thing; another, to allow us the use of barley for our own use on our farms exclusively.

What besides?—I should also consider that we are entitled to a reduction of the county rates, and also a reduction in the assessed taxes; I apprehend the assessed taxes, in point of amount, are very small; from not knowing the laws, many illiterate farmers get into all sorts of scrapes by using a horse or carrier's cart.

Taking ten or twelve years together, when was it

a very prosperous time for farmers?—If there has been benefit any where, there has been none on heavy land.

Is there any land producing 30 bushels an acre?—Yes.

What is the condition of those that farm that land?—They are badly off.

Wool has borne a higher price within the last five year?—It has.

To what do you attribute that?—To our manufacturers being so prosperous.

Would not you attribute the rise in the wool to the rot in sheep?—Yes, in part; but I also attribute it in part to there being such a good trade for the commodity.

Though the effect of the rot has been got over, the deficiency caused by the rot has not been supplied, therefore the effect of the rot would still be felt on prices?—The effect of the rot would now be got over; and unless the manufacturers were in a very prosperous state we could not keep up the price of wool to what it is now.

You stated, that a great many farmers were ruined in consequence of the paper system?—Yes, a great many in my opinion were ruined who had borrowed money of bankers.

Can you state whether more have been ruined since or before 1825?—I think we have had great ruin since that time; but now we are getting over the effects of returning from a paper currency, and I think it would be better not to go back again.

Do you think the farmers can go on much longer, as things now are?—Not without relief, but that can be given without paper currency:—I can point out another plan, by allowing corn to be distilled for spirits, and the spirits exported; that would be a very great relief for this country, and not any injury whatever to the revenue.

MR. SANFORD.—Are you to be understood to say, that a farmer at the present moment having a good security to offer, can without any difficulty obtain money?—To any amount.

Is the system of corn rents acted on in the counties with which you are acquainted?—We have part in corn rent and part in money payment, but the corn rent I do not consider a good way of adjusting rent myself.

Are you acquainted with what is supposed to have been the origin of corn rents?—We have them in our leases from the earliest ages, but I am not able to speak to the origin of them.

Do you find by means of draining and manuring with bone-dust you can cultivate the soil with a profit?—Wherever the oxide of iron does not predominate I can.

CHAIRMAN.—Is it your opinion that the consumption of potatoes by the poor has had any effect upon the price of wheat?—I am quite satisfied it has not, for the price of wheat has been so low it has put it into the power of persons to have that, in fact, as a substitute for other things.

MR. SANFORD.—To what purpose is rye straw applied?—For thatch, for horses' collars, and for brick-makers.

MR. CAYLEY.—You think the land is deteriorating in cultivation from the want of sufficient labour upon it?—Yes.

Had the farmers any difficulty in finding security when they were better off?—They would not have so much difficulty as they have now.

To what do you attribute the greater difficulty they now feel in finding security?—Because they as a class of men are not so good to lend money to, as they were formerly; the men to whom I allude are

the men on the cold clay lands, they are much distressed.

Supposing the price of produce were to rise, and the farmers to get a remuneration for their capital, and there was to be a steady state of things for the agricultural interest, do you think that the banker then would be more ready to advance money to the farmer?—My opinion is exactly the same about that, that the prudent bankers would not advance except to those men who they saw would probably pay them again.

Do you conceive persons of good character and good ability as farmers, can obtain money as easily as they used to do?—Quite; I am certain of it; I am speaking of bankers where I am connected.

MR. CLIVE.—Do not you think it would be a better plan for the tenant to come to the landlord?—I think it would, but many landlords who are needy would say they must have the money.

MR. WODEHOUSE.—Should you not say that that covenant which forbids the carrying away the hay from the premises is a wise covenant?—I do not, if I see a man who is anxious and striving to get on and improving his farm, and I think it to his benefit to allow him to sell hay and straw, all I say is, take care to lay it out in bone-dust or other manure; if he was going to quit the farm I should prohibit his doing it.

MR. CAYLEY.—You have spoken of farmers paying their bills less punctually in adverse circumstances; does it come within the scope of your knowledge, that while the farmers are paying their rents punctually to their landlords, they are running bills with their tradesmen?—I have known that, because I have been paying workmen in provincial towns they have said, you have all the money out of the place for rents, and the tenants cannot pay me.

That is a general complaint among the tradesmen?—Generally, I believe.

MR. CLAY.—You have spoken of the change of times for farmers, they are less able to pay rent and less able to pay tradesmen?—Yes; there is not that quantity of improvement carried on, and the farmer has not had so much work done during the depression of agriculture, as formerly.

Since what period?—I should say it has never been carried on with so much spirit as since the year 1825, just before the panic, that was when the thing was going on most swimmingly; then farmers were doing well. The panic happened in December, 1825, but then we were selling wheat at the best price, and every thing going on well.

MR. CAYLEY.—From time immemorial it has been the custom, even before the war, to grow wheat upon wet and heavy land with a profit?—Yes, and that land, owing to the depressed state of agriculture, has been over-cropped and mismanaged, and that has made it much worse.

MR. DUNLOP.—Are you acquainted with the turnip and clover lands?—Yes.

Has the cultivation of that species of land improved within the last 15 years?—Very much.

Is there more wheat grown upon that class of land than there used to be?—Much more.

Do you consider the relative value which used to exist between the light and heavy soils to be altered?—It has been.

In favour of which?—Of the light soils.

Do you consider the light soil now to be in as great distress as the heavy?—Certainly not.

It is your opinion that wheat can be grown in England at a much lower price now than it used to be when it was grown on the heavy soils?—Yes.

MR. ROBERT CLIVE.—Have there been great improvements in Lincolnshire?—Very great, indeed.

MR. CAYLEY.—Are you acquainted with the nature of those improvements?—Not particularly.

They have added to the growth of wheat?—Very much on the whole of the lands from Louth to Barton, where I should say, thirty or forty years ago, wheat was scarcely known, the land was, generally speaking, uncultivated, as far as the best system of farming goes.

MR. DUNLOP.—Are you acquainted with any heavy clay lands which have been drained lately?—Yes, I have drained thousands of chains.

Has not a great improvement taken place upon that land?—It is vastly improved.

Has not a great deal of money been laid out in improving light soils?—Yes; there has been more money laid out on the light lands than on the heavy.

Is it your opinion that if the same scale of improvement had been carried forward in the heavy as upon the light lands, they would have been more productive?—It is not possible to carry on the same improvements on those as on the light soils, because the sub-soil is tenacious, and we cannot grow turnips upon them; if we could feed sheep, we could improve them.

In your opinion the light soils have come into use, and the heavy soils have been depreciated?—Decidedly.

SIR ROBERT PELL.—Speaking of the heavy lands, as compared with twenty years since, do you think it will be found that the cultivation is better now than it was twenty years since?—I think that the cultivation of clay lands is nearly stationary; there have been large sums laid out on part in under-draining, while others have gone back from the want of attention, and from the want of capital.

In respect of the light lands, has there been a decided improvement?—I am certain of that.

Within the last twenty years?—Yes.

The productive quality of that land has much increased?—Yes.

There is more wheat grown upon it?—Yes.

Supposing there should not be a corresponding demand for wheat in proportion as that class of land increases, it must make the heavy clay land less profitable?—Yes.

You do not complain of the price of mutton now?—No.

Of wool?—No.

Of barley, you cannot expect much increase in that?—No, not much.

Oats?—Oats, we should wish for a little increase.

Beans?—If we had 4s a quarter more, we should not have much fault to find.

The chief complaint is on account of the depression in the price of wheat?—Yes, that is where the farmer is suffering most; that is where he looks for his rent in the spring of the year, when he should have the price of his wheat to raise the money for his rent: when he is looking for a large sum of money to meet his payments; when he comes to thresh out and carry to market, his expenses take almost the whole price.

His interest must be affected if wheat is poured in from Ireland, and the improved cultivation in Ireland occasions more to be sent in from that country?—Yes.

Take the case of other land, in which the recent improvement in agriculture has taken place; first, where there is a fair proportion of light soil, and then, secondly, a case of almost exclusively light soil, and where the turnip and barley system can be introduced; is there any difficulty in letting that at

a fair rental?—There is no difficulty in letting a good turnip farm.

Do not you think, in some parts of the country there is a good deal of competition where land is to be let?—We have no difficulty in letting some descriptions of farms; the difficulty we have is in letting the heavy clay lands; the farmers will not take them.

Have you any remedy for the heavy clay land; supposing you were enabled to carry into effect any plan which you have for increasing the prosperity of the heavy clay lands, what would you suggest?—I have been trying that very much myself, by advising landlords to lay out money in permanent improvements; and where the tenant is poor, instead of making an abatement of 10 per cent., to improve the farm.

MR. SANDFORD.—With reference to the questions which have been put to you, do you think there has been an equal quantity of labour and capital employed upon the clay lands, under your observation, as there has upon the light?—Certainly not.

MR. CAYLEY.—Who are the competitors for those farms which you say are unoccupied?—Men without money; for a man who has got money will not take them.

Do you think the price of wheat has fallen for want of that?—I have no hesitation in saying, that if you let out more paper, there would be men found who would have that paper, and would speculate and so on, and for a time that would raise prices, but then the remedy would be worse than the disease.

Was it the raw wool that was exported?—Yes, there was a good deal of wool exported to France.

You have spoken of the importation from Ireland and the improved system of cultivation in Scotland; do you know any thing personally of the importations from Ireland, or the improved system of cultivation in Scotland?—During the last summer I went to both Scotland and Ireland too.

You said that you have been to Scotland; will you speak with respect to the cultivation there?—From my own observation upon the estates that I saw and the information gained from what I met in the neighbourhood, they pointed out to me estates there under the finest state of cultivation that they said 30 years ago were mere waste.

Has this increase in the growth of wheat in Lincolnshire taken place within the last five or six years?—Within about ten years; there is much more wheat grown now than there was ten years ago, and I have rode with men whom I am acquainted with in the county of Lincoln, and they have said that the district that we have rode over within ten years never used to grow anything.

MR. LOCH.—Is not there a large district of Lincolnshire under cultivation now with wheat, which was not under culture a few years ago?—Yes.

SIR ROBERT PEEL.—As a man who has had very extensive acquaintance with agriculture, and who has paid some attention to the question of currency, do you think that it would be an advantage to farmers, either upon the heavy or light soil, to have an increase of prices arising solely from an action upon the currency?—I am sure it would not; my opinion is this, that if we were to have an alteration in the currency, prices would rise for the time, but that we should suffer for it afterwards.

Speaking generally, notwithstanding that the tenant contracted an obligation to pay under a lease, yet the landlord has taken his circumstances into consideration and has made a reduction of rent?—That very much depends upon circumstances, I

have known instances where landlords have acted very liberally towards their tenants, and I have also known instances where there have been acts of great oppression. Where I have complained most, and where I shall always complain, are instances where I have let farms to tenants at low rates, and they have very much improved them, and the clergyman has come in and taken his tithes. I could name instances where that has been done, where the tithes used to be about a couple of shillings an acre, and an improved system of husbandry has been carried on, and he has taken advantage of it; and the tenant, rather than let the crops go from his old land has suffered imposition.

MR. CAYLEY.—Can you assign in your mind any particular reason for the estate alluded to becoming so much diminished in value as to fall within the grasp of the mortgagee?—My opinion is this, that it is that description of soil that will grow nothing in its present state but wheat, and wheat has been so very low in price that persons have not been found to purchase it.

SIR ROBERT PEEL.—The mortgage of which you spoke was entered into about 22 years ago?—Yes; or if the mortgage was not entered into, the effect of that mortgage was by the will.

Do not you think that the party calculated upon a continuance of war prices?—I should say he did.

Supposing the price of wheat to have been materially reduced by any other cause besides the currency, or by any causes acting in conjunction with the currency, would it have a prejudicial effect upon the interest of the owner of the estate; would a low price of wheat, proceeding from any cause, have a prejudicial effect upon that land?—Yes, it would.

FORCING BROCCOLI.—In a gentleman's family where much company is kept, this vegetable is in continued use, and the gardener, at some seasons will find it rather difficult to meet the demand; the following is the most certain plan with which I am acquainted; I have practised it several years most successfully. Sow the seed in the middle of April in any open situation, which I never water; use as many as are wanted for planting out from the edges of the seed bed, leaving the remainder for next year; if the land is very hard through drought, do not let that hinder your planting, for the land wants no digging; take a common farming folding drift to make holes with; slough the roots of the plants; plant the rows two feet and a half from each other, and each plant two feet apart in the rows; water them well, neither the sun nor the snails will injure them after this, as they are, (through age) of such a woody substance, and will come in earlier than those of one year's growth. In January, February, and March, if very sharp frosts, and a dish of white Broccoli is wanted for table, it will be necessary to force a few for that purpose, which is very easily done as follows:—Take a little rotten dung and place next to the stalks of as many as are intended to be forced (selecting the tallest,) lay hot manure round the outside of that, which will cause the sap to rise to the flower; and if any spare hand-lights, use them by covering the plants which have been previously tied up, if none, straw will answer the purpose. My brother gardeners will not find this lost labour, as the manure will be already on the land for the succeeding crop. For successive years I have obtained the first prize, at spring shows, for white Broccoli, cultivated exactly as above stated.—Allen.

AGRICULTURAL REPORTS.

ESSEX.

We have nothing particular to communicate this week. The same cold weather, with the absence of all sun till within the last day or two, has characterised the last fortnight, and the appearance of our fields is little altered. On good lands the wheats have grown more than might have been expected in such an unfavourable atmosphere, and our opinion is the crop will in no way whatever be injured to the extent some suppose (if any at all) by the coldness and lateness of the season. From the mildness of the last day or two the grasses appear to be slowly recovering from their severe and protracted check; and if we have a continuation of warmth, we shall shortly get a good bite for our sheep, which, with their lambs, have a miserable starved appearance. Our county during the last fortnight has stood conspicuous in the awful blaze of incendiary crime—the flames of fire after fire have been seen lighting up the darkness of midnight, and that fiendish spirit which we had hoped was driven from our county by increased employment and industry, has again returned, and, undiscovered, fills with alarm and terror the minds of those on whose industry and enterprise the poor man alone depends for employment and the comfortable necessaries of life. Much has been said against the introduction of a rural police, and, without sufficient cause being shown, we should question the policy of such an establishment; but we should like much to see it partially adopted in districts where this daring yet coward incendiarism and crime holds so fearful a preponderance. The Eastern Counties Railway Company have commenced operations at Warley Common, near Brentwood, in this county, and a considerable number of men are already employed—several have left our neighbourhood to apply for work upon the line, but we fear they will be unable to obtain it, as the severe pressure upon the money market must exceedingly limit the capabilities of the Company entering upon a very extensive operation. We had hoped it would have gone on more rapidly this spring, and found the teeming population of the more northern districts of our county that employment which the straitened resources of the farmers could not comfortably supply. We have heard of laborers in its vicinity taunting their masters with the limited number of laborers who would stay at home, demanding a greater price for their labor; but we ourselves fear no great rise, as many farmers must limit the number of his laborers considerably, from his want of means to pay them extravagant prices, and higher prices would induce many laborers who are now, we regret to state, only earning their 7s. and 8s. per week, to leave their own homes, and supply the places of those who in the vicinity of the Company's operation are now earning at agricultural labor their 10s. or 12s. per week. That it will in some degree cripple and inconvenience for a time the farmers in the neighbourhood, we do not dispute; but thousands will be found ready to supply the wants of the contractors from a distance, drawn by the lure of 15s. or 18s. per week being offered them, on which, nevertheless, in lodgings they will be in a worse situation than the regular man at home by his own comfortable fireside, with his family, though only earning 10s or 12s. We look upon these rail-

road operations as any thing but calculated to improve the morality and good behaviour of our peasantry—considering the characters of those who are generally employed on them. We have heard much of the actual necessity of compelling the Company's protecting property from plunder, and persons from violence, and we heartily wish government would adopt the petition presented the other day in regard to it, and teach a set of lawless miscreants that though they are away from the restraints of home, they are not free from the penalties of violated law.

From the claims made this quarter by the Board of Guardians upon the overseers of different parishes, we observe little or no difference from those of the corresponding year; and we assume from this, taking into consideration the few unemployed men we have had during the last year, that we must not expect any very great diminution of our future poor rates. We have heard great complaints made by overseers, in being disallowed by the auditor the payment made by them for precepts, charged with the county rate, and their having to lose it themselves, if they had previously paid the item. Surely something should be explicit from the Commissioners upon this point, and prevent inconvenience and pecuniary loss to those officers who have to bear the burthen of gathering and paying as well. We would recommend overseers to pay no doubtful charges upon their parishes previous to his submitting them to the auditor of his district. The only measure before Parliament for the relief of agriculture appears to be, the abolition of Church Rates. Much has been circulated on either side contrary to truth; but the real fact is, agriculture would be glad to rid itself of all taxation bearing oppressively on its energies, should conscience not interpose. We believe there are many good and conscientious men among the farmers, who, rather than see our churches crumbling into decay, by no state provision being made for their repair, would like to see the law stand as it does, but many, contrary to the declaration made the other day in a high quarter, are far from believing the ministerial measure to be servative of the church; but would rather tend to secure a provision, which unless some concession be made, will eventually be swept away without any substitute, and leave the church (not to say the hierarchy itself) dependent upon the voluntary system. Demonstrations, as they are called, have been got up on either side. Bigoted intolerance and party spirit seemed the presiding influences of the day, but we fear nothing for true religion, conscious that her safety is in the hands of One who holds and preserves his true church even as the apple of his eye. That the combination of so much opposition in both Houses of Parliament will shortly throw back the constituency (however much to be regretted) upon the country, we have no doubt, but then we shall have an opportunity (and we sincerely trust it may not be abused) of returning those men to settle the question whose lives and conduct prove they have received that benefit from religion which shall enable them to come to a fair and impartial decision on all these momentous questions. The presumption of our northern traders in sending a deputation to the Chancellor of the Exchequer, to grant them pecuniary relief from their present much to be lamented difficulties, is only a specimen of their

assumed superiority over the agricultural interests of this kingdom. But four or five years ago, the farmers, in the midst of very great and general suffering, proposed to government the buying up of their produce, when the average of wheat was below 40s. per quarter; and let the manufacturers remember that proposition was met by them with utter contempt. We wish either interests fostered and encouraged by the state, and if a starving manufacturing population is worthy of relief, why surely so is an agricultural one. Agriculture and manufacture are intimately blended, and the benefit of one, to the injury of the other, will always be attended by injurious jealousy and unsatisfactory consequences. The manufacturing interests have till lately had a rich and almost unexampled prosperity, and we think two or three months of reverse offers little apology for adopting a course which was so much scouted when proposed by the agricultural interest.

April 20th.

W. C.

DURHAM.

The month of March came in with tolerable fine weather for the season, which continued until the 11th, when it set in a hard frost, with snow. The frost has been most intense ever since, and more or less snow has fallen every day since; and to-day it is most tempestuous and stormy, and will very soon be a foot thick of snow upon the ground. This has been a very long, trying, and dreary winter for the farmer; indeed it has been two winters together, for it pleased the Almighty to visit this country last autumn with the most inclement and backward seasons that had ever happened in the memory of man, consequently in the higher and later districts, corn never ripened, or if it did approach to any thing towards maturity, it was dashed out by the winds. Winter set in about the middle of last October, and on the 29th we had a deep and awful snow storm, when thousands of acres of corn were out, cut and uncut. Many farmers were obliged to cut the snow in the lanes six or eight feet deep before they could get their corn carried into their stack-yards. Their hay crop was entirely spoiled by the wet weather. Since the 29th October, the moors have never been free from snow. Stock could never get to the ground, consequently they were all to hand-feed. Fodder is quite exhausted; hay is selling at 8*l.* to 10*l.* per ton. The result will be, that moor stock will nearly all perish for want of food. The loss of lambs has been immense owing to the severe weather, and the ewes having no milk. The deficiency in the clip of wool will be great, and of bad quality, as where sheep are poor the wool is always tender and light. We never remember of agricultural labour being so far in arrear as it is at this period. Very few farmers have begun to sow their spring corn, from the severe frosts, and land being in such a raw state; but should the weather become once more fine, land will work well, being so well pulverised by the long and severe frosts. From the extreme wet weather last autumn, thousands of acres of fallow land did not get sown with wheat in this county; it will now have to be sown with either oats or barley, and wet, clayey, retentive sub-soils, such as the greatest part of unsown fallows is composed of, is adapted to the growth of neither, consequently the prospect is but gloomy under these circumstances. The prospect of the next wheat crop is the reverse of good—the wheats have the appearance of fallow fields. Our markets for wheat have been steady of late. Oats are advancing, from the great consumption of that article for sheep. Fat cattle and sheep are rather

upon the advance: beef from 6*s* 6*d* to 7*s* per stone, and sheep 7*d* to 7½*d* per lb. We consider that fat cattle must be very dear before grass fed cattle can come to market, for they are miserably poor, and there are no half fat cattle, owing to the failure of the turnip crop. That useful and valuable root had a great many enemies last year; first they were attacked by the fly, then came for the first time in this county, the black caterpillar, and last of all the grub. It was very difficult for any crop to stand against such repeated attacks. Potatoes were also a very failing crop. We are of opinion the best remedy is to plant them early, for wherever there is a want of moisture they are sure to take the dry rot; but this is not always a preventive. They are very scarce and dear. At our Hinds hiring at Durham, on the 1st inst., considerably higher wages were given, in consequence of the number of railways and other public works that are going on in this county. We anticipate in a short time that farm servants will not be met with, as they all wish to go to the railways, where they can earn exorbitant wages, such as no farmer can give, and where they can be their own masters, and get drunk two or three days in the week. When they once take up this line of life they become useless hereafter for farm servants—it is a school for vice.—April 16.

OXFORDSHIRE.

The last two months have proved so dreary, that there was but little to communicate that was likely to interest your readers; for we expect the intense cold was felt throughout the kingdom in pretty much the same proportion as here. Perhaps the oldest person living never remembers such a season taken altogether. It is now becoming every day more serious, for the days are so lengthening, that the cattle require a larger proportion of food, and the hay ricks (especially the last year's, cut) are so hollow, that they do not produce half the quantity of provender that they were supposed to contain; the consequence is, that rick after rick, and stump after stump, disappear like snow beneath a warm sun, so that in a very short time a stump of hay will be a rarity. About a month past there was a fall in the price, but of late it has advanced with a rapidity truly alarming. Nothing that is at all fit for use can be bought under 7*l.* per ton, and some holders are demanding seven guineas. Straw is also a scarce article, and worth about double its usual price. In several places cattle, especially young heifers and stirks, have been reported to have died for want of sufficient food to nourish and support nature. The coming season will probably prove fatal to many that now are in a weak and worn-down state. There has been in this and the adjoining counties a sad mortality among the tugs; we have heard of some who have lost 100 and upwards,—others who have had from 30 to 70, or 80, carried off, mostly from a scour; but in some instances, where extraordinary pains have been taken in cutting Swedes for them, and forcing them along, it appears to have occasioned a fulness of blood, and many have dropped, supposed from that cause alone. The lambing season is now over, and we believe the fall of lambs to be about equal to that of former years, nor have we heard of more casualties than usual, nor perhaps so many as might have been expected, particularly when the hay was not spared in the winter. The ewes have but seldom yeaned with less trouble to the shepherd, or less danger to themselves; but it is now a trying time for both ewes and lambs,—people are obliged to spread them over

all the land they occupy, and shutting up for mowing is at present out of the question. The barley tilths, ploughed the end of February, or beginning of March, turned up exceedingly raw and livery, and where intended to have had another ploughing, the perpetual frosty nights we have had, have so pulverised the soil, that once harrowing and tilling is found quite sufficient for the drill, and an immense deal of labour has been saved, consequently seeding is in a very forward state. Some apprehension has been felt for the bean crop, as well as the early sown oats and barley; but we hope they are not materially injured. The wheat crop is looking bleak, and in many fields appears to be deficient in plant, but it is too soon to form a correct judgment of the crop. The seed layers are sadly cut, and the plants are thin and weak, and on the whole we think but a small produce must be expected. Corn markets have been bad, and barley has kept uniformly getting lower from week to week; indeed every thing has been heavy and dull of sale. Fat stock much the same; store stock dull. Butter very low considering the season and the price of hay.—April 15.

KENT.

The long continuance of cold winds, with frost and snow, has had a very serious effect on vegetation in general. As respects the wheats, there is very little difference in the look of them now and some months back; but they have no doubt been stocked beneath the surface, and when the change of weather comes, they will rise with renewed strength, and make up in a measure for the lost time; but we may make up our minds to a backward harvest, unless we should have some warm growing weather, which may greatly improve things in a very short time. Of the early sown spring corn very little is yet above ground: a few fields of barley and oats, with a few forward peas is all that are yet to be seen, but a warm shower and a little sun will bring up a very great quantity in a very short time. With few exceptions the spring corn is in with us, the weather being very suitable in some respects, and the land in most instances has worked well. Those people who grow potatoes are very busy ploughing and dressing their land planting; the potatoes with us at the present time are selling at 7s the sack, so that those who have to buy their seed make it come very expensive, as it generally takes from nine to ten sacks to plant an acre. The corn markets with us, for a length of time, have been very flat, and gradually falling, but not with being over supplied; for in general the wheat markets have been short, particularly for dry prime samples: but the want of money has caused the stagnation, and we hope before the season finishes they will be better. In the stock markets the supply has been on an extensive scale, numbers having been obliged to send to market what they intended to keep forward; but the very backward state of the grass lands compelled them for want of food to part with them. We have little doing amongst wool at the present moment, and not much in the growers' hands, but what is on the sheep's back.—April 19.

BEDFORDSHIRE.

Subsequent to our last report, the month of March (we may safely say), without the least intermission, was a complete winter month; and up to the present period, excepting the lengthening of the days, there is scarcely any sign of spring. Frost every night; the hills almost constantly covered with snow or hail; and to give a just idea of the intensity of the frost, we need

only say that pumps have been frequently frozen up, even in the present month, a circumstance quite without precedent in our recollection. Three weeks since we intimated that the farmers began to feel great alarm from the scarcity of food for their stock, and every succeeding day only increases it. Twenty pounds an acre have been offered in vain for turnips, and if the severe weather should continue only a very short time longer, some of our farmers will not have an atom left, either of hay or turnips. These articles are now doted out upon the most stingy scale, and every means resorted to which ingenuity can invent, in order to eke them out. In addition to these circumstances our grass lands in general, would not furnish a bite for a goose, while it is not saying too much when we say, that the young seeds present a more sombre appearance than at Christmas, and there is evidently much less upon the ground of anything that is green, than at that period. Of late the wind has been generally blowing from the north and north-west, though occasionally it has veered to the south-west, but even then the cold has scarcely abated an atom. To all, therefore, who are the least acquainted with rural affairs, we need hardly say, that things are beginning to wear a very serious aspect. It is always, however, by far the most pleasing part of our task to turn to the more favourable parts of the picture, and we are very glad to be able to state, that the spring sowing has generally been performed under very propitious circumstances, and the soil must be considered to be left in a very excellent condition; and if the repeated frosts shall not have proved injurious to the newly planted beans (of which we are not without our fears), and especially if the present harsh weather should be speedily succeeded by warm and gentle showers, it is not too late yet to hope, as far as these crops are concerned, for the most favourable results. And even as regards the severity of the weather, though great inconvenience must be sustained, still it would be highly presumptuous in short-sighted erring man to say that upon the whole even this were not for the best. For it is not only possible, but highly probable, that occasionally the laws of nature may require at particular seasons of the year the most astonishing variations of temperature. And who is wise enough among us to say, that these chilling and apparently untimely frosts, are not ridding us every day of myriads upon myriads of those destructive insects, which for the last few years have so grievously annoyed the husbandman, which, in fact have been the main cause of the present deficiency of animal food.—April 7.

EAST LOTHIAN.

As yet the trembling year is unconfirmed,
And winter oft at eve resumes the breeze,
Chills the pale morn, and bids his driving sleets
Deform the day delightless.—Thomson.

The weather of March is proverbially variable, and the by-gone month has formed no exception to the general rule of its predecessors in ages gone by. For a few days at the commencement of the month the weather proved highly favourable to the forwarding of the various operations incident to the season, and in some solitary instances both wheat and oats were committed to the soil, and "March dust," ever a welcome sight to the farmer, was by no means rare. But the weather of our northern latitude is ever liable to changes, both sudden and severe, and the spring-like aspect which the weather had assumed, was destined to be dissipated in the frowns of winter. On the eleventh of the month we experienced a severe snow storm, and the weather subsequently having proved untoward and unfavourable, the soil is not yet in a state fit for undergoing the operations peculiar to seed time. The excessively low temperature which has obtained throughout the month being highly unfavourable to rapid vegetation, the young wheats and seedling grasses are by no means forward; indeed, few of the members of the vegetable kingdom, with the exception of those in sheltered situations, as yet exhibit symptoms of active vitality. The autumn-

sown fallow wheat, on superior soils, though not forward, as well planted and healthy; but on close-bottomed inferior clays the case is altogether different, the plants being exceedingly backward and sickly, indeed, to such an extent is this the case, that on many fields of this description the most eagle-eyed observer would scarcely discover vegetation on their surface, and unless the weather soon assumes a more genial aspect, there is a great probability of the crop being both late and inferior. The little spring wheat which has been sown, has not yet braided, so that nothing can as yet be said of it. The lambing season can scarcely be said to be begun, excepting in a few instances; and report in these cases does not speak favourably of the fall. Stackyards are getting thin, partly on account of the farmer having to thrash out his grain for seed, and to have the straw made into manure, and partly owing to his having more time to attend to indoor matters, the late storm preventing the prosecution of field operations. A dulness has pervaded the county corn markets during the month, and prices cannot be said to be improving. At Gifford fair on Tuesday last there was a poor supply of both Cheviot and black-faced ewes, and owing to the severity of the past winter in the Lammermuirs, the stock exhibited appeared in very poor condition. Cheviot ewes ranged from 16s to 20s a head, and black-faced from 10s to 14s, and half-bred hogs which had received turnips throughout the winter, sold from 18s to 20s. In the cattle and horse markets the animals shown were very inferior, and business was in consequence dull. As the welfare of the farmer, and prosperity of agriculture, in a great measure depend on the superiority of the cultivated varieties of domestic animals and plants, every one who desires to see the farmer, and those connected with him, prosperous and happy, and his art progressing steadily in the path of improvement, must hail with delight the introduction to notice of any species of animal or plant which experience has proved to be possessed of properties superior to those of other members of the same kind under general cultivation. For by improving our system of husbandry, and by cultivating only the superior descriptions of plants and animals, our land and labour are rendered more productive, and all classes of society essentially and permanently benefitted: it is through this path that the acme of agricultural greatness is to be most surely and most quickly attained; from this quarter will the much talked-of "agricultural distress" receive its surest death blow, and the calumniated corn laws be rendered null and nugatory. We have been induced to make these remarks, partly from the circumstance of our believing them to point out the surest and shortest path to prosperity to the farmer and his profession, and partly from the circumstance of our having seen in the seventeenth report of the agricultural society of this county, just published, several reports of experiments; one conducted with a view of ascertaining the merits of the Italian rye grass, as compared with the common perennial variety; and three others, with a view of discovering the merits of the Chevalier, as compared with the common varieties of barley. We shall discuss these reports in their proper order. The first experiment appears to have been entered into with a view of satisfying its conductor of the comparative merits of the two above-mentioned varieties of rye grass, whether cultivated as pasture grasses, or with a view of being manufactured into hay. In the spring of the year 1835, a spot in a field in wheat after fallow, was seeded with two pecks of Italian rye grass, mixed with eight pounds of red and four pounds of white clover, the rest of the field being treated in the same way, but sown with the common perennial rye grass. This field was depastured in the summer of the ensuing year, and throughout the whole of the season, the Italian maintained a superior appearance, except when sheep were allowed access to the field, when it was more closely eaten, doubtless from the circumstance of its being more palatable to the woolly denizens of the fields. A spot in another field, also in wheat after fallow, was sown at the same time, with two pecks of Italian rye grass, and ten pounds of red clover, the rest of the field being sown with the like quantities of perennial rye grass and clover. The produce of this field was made into hay, and the

produce of an acre of each in hay and seed ascertained, and found to be as follows:—

	Stones,	Seed,	Weight,
	tron.	bush.	Per bush.
Hay of perennial rye grass,			
per acre.....	72 ..	5 $\frac{1}{2}$..	20lbs.
Ditto, Italian	71 ..	3 $\frac{3}{4}$..	20 $\frac{1}{2}$ lbs.

During the month of September the second crop over both varieties was cut. Not a stalk of the perennial had risen a second time, while the Italian was shooting into ear, as vigorous and promising as the first crop showed at the same stage of its growth, and the crop of aftermath over the Italian variety, was found as measured in the cart to be double that of the other. We regard the above experiment, as well as others which have come under our personal observation, as decisive of the character of the Italian rye grass, and we hail its introduction to cultivation as of the greatest importance to British husbandry. It is the prominent characteristic of this grass, that it yields at least three good crops in a season, whereas, the common rye grass seldom yields more than one, or if two, the second is ever late and inferior, and all things considered not worth taking into account. From the circumstance of the Italian not tillering or sending out side shoots, (it does not, (circumstances as to seed being equal,) stand so thick on the ground as the common variety, but this defect of course admits of an easy remedy, either (as is observed by the enterprising author of the report above quoted) by improving the quality, or increasing the quantity of seed per acre. The following "observations," which are annexed to the report of the first detailed experiments with the common and Chevalier varieties of barley, and which in substance are not different from the others, will serve to convey all necessary information as to their qualities and nature of growth.

OBSERVATIONS.—"In braiding there was no perceptible difference, after which the Chevalier assumed the most vigorous growth, and had the appearance of eight or ten days earlier, but in ripening, the common came forward earliest, for although cut nine days before the Chevalier, it was more fully ripe. The common barley made the finest malt, as almost every pickle sprang, whereas in the Chevalier a good many did not. This I think in a measure proceeded from the common being more fully ripe when cut."

The report to which the above observations are appended, gives a superior value to the Chevalier over the common variety of 3/ 0s 4d per acre, which, when extensively cultivated, is certainly a matter of very considerable importance.—March 31.

SOUTH NORTHAMPTONSHIRE.

Since our last, the weather has been very severe, the sharp frosts which we had the beginning of the month, quite checked all progress of vegetation, and the snow on the 16th of April lying from eight inches to a foot thick, and the air quite as keen as in the midst of winter, made the country assume more the appearance of that dreary season of the year, than the spring fast advancing; if we do not soon have a favourable change of weather, we tremble for the consequences as there are numbers of cattle daily perishing for want, and there being hardly one farmer in ten who has any hay left, and are unable to buy on account of its enormous price, it being worth from 8/ to 10/ per ton; we fear when the grass comes the loss of young cattle will be very great. Sheep have been doing very badly at turnips this winter, the weather being very much against them and their supply of turnips short we fear will contribute very much to the deterioration of the fleece, and we have heard of great losses amongst the tegs from the influenza. The young wheats have very much improved in appearance these last few days, and are now looking healthy (but are very backward, and we are very much afraid if we do not soon have warm

weather must be very short in the straw. The land was never known to work better than this spring and the corn has been all put in well, so that with the blessing of providence we may expect a fruitful harvest. Our cattle markets have been very scantily supplied of late, the price accordingly has materially advanced, and we think is likely still to advance, as the greatest part of the stall fed beast are gone and there not being at present much prospect of any grass fed beef, the best beef being now worth from 6½d. to 7½d. per lb. and mutton in the wool from 8d. to 9d. per lb. Our Corn markets remain in the same inactive state in which they have been for some time, the best wheat however has been more called for of late and realizes a somewhat better price, but barley is not much sought after, and is almost unsaleable at any price; oats meet with a steady demand at fully late prices a great many are giving them to their cattle they being considered cheaper than hay.—April 22.

NORFOLK.

The procrastination of wintery weather, even to the third week in April, with scarcely a gleam of sunshine to soften the asperity of the atmosphere, is a circumstance of such rare occurrence and attended with such embarrassing consequences to the holders of live stock, that it may well be regarded as a calamity which could neither have been foreseen or provided against, by those persons who have now the mortification to witness the starving condition of their flocks, and lambs dropping off for the want of nourishment. It is true that since the rain has fallen, vegetation has made some progress, although the temperature of the atmosphere has been very unlike that which we usually experience in the month of April after a shower, nevertheless backward as the season unquestionably is, and difficult as it really has been to dole out a scanty allowance of provender to the sheep and cattle, yet we do not apprehend that the prospect of rural affairs can upon the whole be pronounced unsatisfactory. With regard to the crops, it cannot be denied that a portion of the wheat is deficient in plant even to an extent which may render its productiveness very questionable; nevertheless taken as a whole, there does not appear any reason to apprehend that much danger will accrue from the growth of the plant having been retarded by the inclemency of the weather; on the contrary it is already pronounced to be in an improving and satisfactory condition. Peas and Beans, which have now been planted seven or eight weeks, are scarcely perceptible above ground, a remark which will equally apply to spring tares and almost to the winter ones; the latter will certainly not come to the scythe sooner than a month after the usual period, whereas the rye which was intended for spring feeding previous to the land being sown with turnips, will necessarily be ploughed under without having in any way contributed to the purpose for which it was intended. The sowing of spring corn was nearly completed before the late fall of rain, and unquestionably in as fine order, as we ever remember to have witnessed it, and that with the smallest possible quantum of labour owing to the lands having been so effectually mellowed and pulverized by a long succession of gentle frost. The same circumstance has also facilitated the preparation of the soil for the reception of mangle wurzel, the cultivation whereof is annually increasing and of which a large breadth is already sown. The last has been a

pinching winter for the labourers in husbandry, nevertheless we do not hear much complaint: it is true the tide of emigration has set in with sweeping rapidity across the Atlantic, but this arises more from the mania which has seized the people, than from actual necessity—indeed we are fully convinced that ere long it will be as necessary to check the measure as it has hitherto been deemed expedient to promote it: for ourselves it has always been our decided opinion that not one individual of the labouring population ought to have been invited to leave his country till furze, gorse, and rushes had wholly given place to corn and herbage, and “wastes and commons,” as terms applicable to land, had become obsolete and forgotten.—April 24.

IRELAND.

(FROM THE BELFAST STANDARD.)

The third week of April is nearly past, and the mountains of Mourne and Iveagh are still clad to the snowy vesture of mid winter. Vegetation has slumbered in torpid inaction for the last five weeks;—the meadows and pastures presenting to the eye a scathed and sapless surface. Wheat is wretchedly backward for the season; and clover, and the other grasses, have a most unpromising appearance, even hardy evergreens have changed their dark foliage to a sickly yellow—early fruit trees which gave so favourable promise have suffered to a considerable extent, the points of the buds which appeared just ready to burst into full flower, look as if scorched by fire; and cabbage plants, set out in February and March, are red as those intended for pickle. Every night brought frosts unusually keen for the season, which, though latterly followed by clear sunny days were sufficient to check the vigorous efforts of nature, and keep the spring in abeyance. Notwithstanding these apparent disadvantages seldom has labour at this period of the year been farther advanced; scarce any oats remain to be sown; large quantities of potatoes are planted—by some farmers to the extent of thirty or forty bushels—the greater part of the ground is cross-ploughed for the general crop; and never, in any year, was this labour more easily performed, as from the extreme mellowness of the ground, it pulverises almost without effort. Little land appears laid out for flax in this district. Many causes have combined to deter the farmer from sowing in larger quantities than may be necessary for the employment of his own family. The additional expense for seed—the labour in preparing the ground—the number of hands necessary for weeding, pulling, watering, and grassing; the uncertainty of this process, the success of which depends so much upon the state of the weather and quality of the water, and in which a slight error may be ruin to the best crop; supposing all these to have been judiciously managed, the still greater risk of the scutchaing being skillfully and *honestly* performed; but if, by great good fortune, the owner has been hitherto favoured, still the fineness of the texture must determine the question of a remunerating price. When we add to all this, that from the closeness of the stems, its bringing no manure, and leaving no stubble, flax leaves the ground more exhausted than, perhaps, any other crop, for the length of its continuance in it; indeed, unless clover or a potato crop intervene, good wheat, oats, or barley need scarcely be expected after flax. It is not to

be wondered that it is no longer a favourite crop. Owners of scutch mills, with a view to their own interest, as well as the public, should be careful in the selection of their workmen, a circumstance in too many instances neglected; to save high wages, two or three experienced hands are often deemed sufficient, while the greater number are unskilled and have their trade to learn, at the heavy expence of the farmer, whose frequently small returns from, perhaps, redundant crops, astonish and disgust him, with an article upon which he cannot with any certainty calculate, how promising soever the appearance; and thus, the production of the raw material, that great desideratum in all manufacturing countries, is discouraged by a short-sighted policy or a culpable neglect. Besides, the practice of tipping prevails in some of these concerns to a great extent. The scutchers, whose understanding with each other is complete and confidential, and many of whom declare drinking necessary to counteract the effect of the *dry dust* inhaled, if ardent spirits can be supplied, will, in too many instances, be little scrupulous of the means. This dram drinking induces carelessness, waste from the hurry to make up lost time, and foolish betting which party shall perform most work in a given period. I would be sorry to add actual dishonesty; but surely the proprietors cannot be too careful in looking after their workmen. A large farmer in this neighbourhood, who has tried this crop on a liberal scale for three years past, declares he will not again attempt it, though in each season his flax on foot was deemed remarkably good. He sowed the last year about five acres and a half, statute measure, for which, before the first weeding, he could have had 50*l.* He pulled an abundant crop, saved a large quantity of seed, and after the usual processes brought it to the mill, expecting a good return. The gross proceeds of the flax was 15*l.*, that of the seed 10*l.*, a sum which did not leave a farthing after paying seed, labour, and the other necessary et ceteras, while off the very same land he has cleared 35*l.* in one year from barley. Another farmer reared 200 stooks of apparently excellent quality, and reckoned upon receiving from the mill, at a moderate calculation, eighty stones. His return was thirty stones and a few pounds—barely sufficient to pay seed and labour. In both these instances grievous mismanagement must have taken place in some of the stages. On the other hand, I have known an acre and a rood, statute measure, of ground lately *broken up*, produce 40 stones, which sold at 12*s.* 6*d.* per stone, and left the owner a large remuneration for his trouble. It would appear, however, that, to induce farmers to cultivate flax on an extensive scale, encouragement should be held out by liberal landlords and Farming Societies; and surely it would be a prudent policy in those possessing large spinning establishments, to give as much preference as possible to the home growth; while owners of scutch mills, who are prevented from superintending their own concerns, should secure overseers and labourers of approved sobriety, experience, and honesty; and thus give a confidence to the farmer, without which, he can scarce be expected to risk the hazards of an uncertain crop. One of the most successful modes of rearing flax and which in fitting soils, has seldom failed, is, to lay out the ground in ridges of not more than ten feet wide; give an additional ploughing, plough-trenching the *hittings* pretty deep, and finishing the operation of harrowing by cross strokes, which

will fill the furrows; roll well, *up and down*, then sow your seed and cover it neatly, with shovels, out of the furrows. Flax sown in this way, comes up beautiful and evenly, none of the seed being too deeply buried, and none left uncovered; and thus, sprouting simultaneously, it will ripen together without the usual quantity of after-growth.

Mangel Wurzel is not likely to be sown this year in quantities equal to the last. The large manuring necessary—the number of hands required for sowing and weeding—the crop itself an exhausting one—bearing frost much worse than turnips—requiring to be washed before sold—and bringing, after all, but indifferent remuneration. All these concur to deter farmers from sowing more than is necessary for their own consumption.—April 19.

GENERAL AGRICULTURAL REPORT FOR APRIL.

The weather during the greatest part of this month has embraced, nearly all the varieties of the last winter. Owing to the long continuance of cold northerly winds, and the want of sufficient moisture, a great scarcity of pasture herbage has been complained of; whilst, in many counties, particularly in our great grazing districts, the stocks of winter fodder have been nearly, or quite exhausted, and for that which remains, very high prices are demanded. Indeed, in several parts of England, scarcely a turnip is to be met with. The sowing of oats and barley, as also spring seeds, generally, has not as yet, been completed. The wheat plants had assumed, about the middle of the month, a very sickly appearance; but, since the late genial rains have fallen, and the pleasant change in the weather, they have become strong and healthy.

The lambing season of our great flock districts, is for the most part concluded. The ewes have withstood the intensity of the weather remarkably well, but we regret to observe, that a large number of lambs have unavoidably perished. We are, however, glad to be enabled to state, that we have been informed by many flock masters, that both their ewes and newly yeaned lambs appear to be fast recovering from their sufferings.

The whole range of vegetation is now beginning to wear a cheerful complexion.

As is to be expected, we have not heard of any cases of sheep rot, this month.

Many farmers appear to be somewhat alarmed, at the bill now under the consideration of the legislature, and which has been introduced into the House of Commons by Mr. Robinson, for the purpose of allowing the holders of bonded corn to convert their wheat into flour in this country, for exportation; under proper restrictions, we rather consider, it will be beneficial to them. For instance—it is well known, that nearly or quite the whole of the flour which has been shipped of late, to various parts of the world, has been of very superior quality, it not answering the purpose of speculators to export that of inferior quality—consequently, there would be (were the bill passed) at least, according to the almost universally admitted axiom of supply and demand, an increased sale for the finest wheat, and higher prices would, doubtless, be realized.

In our markets, for the sale of most kinds of farm produce, trade has been in a sluggish state, at but little variation from the preceding month's currencies.

A retrospective statement of the supplies and prices of fat stock exhibited for sale, in Smithfield Cattle Market on the following dates:—

SUPPLIES.				
	Beasts.	Sheep & Lambs.	Calves.	Pigs.
March 31 ..	613	2915	125	236
April 3 ..	2400	19300	168	332
— 7 ..	710	2845	195	324
— 10 ..	2415	22650	186	396
— 14 ..	715	4212	170	239
— 17 ..	2563	19184	192	386
— 21 ..	621	8140	172	390
— 24 ..	2792	16000	102	454
Total ..	12829	95246	1310	2757
Supply of preceding month. } 16586	124478	977	2618	

It appears, by the above comparison of supplies that those of fast month embraced, 3,657 beasts, and 29,332 sheep and lambs more; 333 calves, and 39 pigs less than those of the present month.

The number of beasts, which has arrived from Norfolk, and formed part of the above supplies, has consisted of 6,943 Scots, Norfolk home bred, and runts; from Suffolk, there have been received, 165 home-breds, Devons, Herefords, runts, and Scots; from Essex, 148 Scots, Devons, runts, and Herefords; from Cambridgeshire, 95 short-horns, Herefords, and Devons; from Lincolnshire, 265 short-horns; from Leicestershire, 163 short-horns, Herefords, runts, and Devons, from Northamptonshire, 105 short-horns, and runts; from Derbyshire, 78 short-horns, and runts; from Staffordshire, 86 Staffords, short-horns, runts, and Devons; from Warwickshire, 90 short-horns, and Herefords; from Oxfordshire 74 Devons and Staffords; from Shropshire 45 Devons and runts; from Durham 44 Devons and runts; from Buckinghamshire 58 Devons, Herefords, runts, and Irish beasts; from Herefordshire 80 Herefords; from Worcestershire, 75 runts, Devons, and Herefords, from different parts of Wales, 73 very prime Pembroke runts; from Gloucestershire, 67 runts, Herefords, and Irish beasts; from Somersetshire, 67 Devons, and Irish beasts; from Devonshire, 95 Devons; from Dorsetshire, 70 Devons and Irish beasts; from Hampshire 81 Devons; from Wiltshire, 49 Devons, runts, and Herefords; from Berkshire, 80 Herefords, runts, Devons, and Irish beasts; from Dundee, Leith, and Perth, 1,301 West Island, Banfshire Aberdeen, and Fifeshire Scots, by steam vessels; from Sussex, 105 Devons, Sussex beasts, runts, and Herefords; from Surrey, 110 cows, Scots and runts; and from Kent, 75 Devons, runts, and cows. The remainder of the supplies of beasts, embracing about 520 lusty and fat town's-end, and as many milch cows, was sent into the market, by the cattle-lodgers, cow-keepers, stallfeeders, &c., who reside within a few miles of London.

PRICES.

Per 8lbs, to sink the offals.

	March 31.		April 24.	
	s. d.	s. d.	s. d.	s. d.
Inferior Beef	2 6	to 2 8	..	2 6 to 2 8
Middling, do. ..	3 0	to 3 8	..	3 0 to 3 8
Prime, do.	3 10	to 4 2	..	3 10 to 4 4
Inferior Mutton..	2 10	to 3 0	..	2 10 to 3 0
Middling do. ..	3 6	to 4 4	..	3 6 to 4 4
Prime ditto, ..	4 6	to 5 0	..	4 6 to 5 0
Lamb	6 4	to 7 0	..	6 0 to 7 0
Veal	4 2	to 5 4	..	4 2 to 5 4
Pork	3 6	to 5 0	..	3 6 to 5 0

A comparison of the supplies and prices of stock sold, in Smithfield on Monday, April 25, 1836, and Monday, April 24, 1837.

At per 8lbs, sinking the offals.

	April 25, 1836.		April 24, 1837	
	s. d.	s. d.	s. d.	s. d.
Coarse and inferior beasts	2 6	to 2 8	..	2 6 to 2 8
Second quality do.	3 0	to 3 6	..	3 0 to 3 4
Prime large oxen	3 8	to 4 0	..	3 6 to 3 8
Prime Scots, &c.	4 2	to 4 6	..	4 0 to 4 4
Coarse and inferior sheep	3 2	to 3 6	..	2 10 to 3 0
Second quality do.	4 0	to 4 4	..	3 6 to 3 10
Prime coarse-woulded do.	4 6	to 4 10	..	3 6 to 3 10
Prime South-Down do.	5 0	to 5 4	..	4 6 to 5 0
Lamb	5 10	to 6 6	..	6 0 to 7 0
Large coarse calves	4 6	to 5 0	..	4 2 to 4 6
Prime small do.	5 2	to 5 6	..	4 8 to 5 4
Large hogs	3 6	to 4 2	..	3 6 to 4 2
Neat small porkers	4 4	to 4 8	..	4 8 to 5 0

SUPPLIES.

April 25, 1836. April 24, 1837.

Beasts	2,550	2,792
Sheep & Lambs	16,050	16,000
Calves	220	102
Pigs	400	454

By the above comparison, it appears, that the supply of Monday, April 25, 1836, consisted of 242 beasts, and 54 pigs less; 50 sheep, and 18 calves more, than that of Monday, April 24, 1837.

Fully three-fourths of the supplies of sheep— which have been chiefly derived from Sussex, Kent, Surrey, Essex, Hampshire, Dorsetshire, Devonshire, Wiltshire, Somersetshire, Lincolnshire, Leicestershire, Northamptonshire, and Middlesex—have consisted of about equal numbers of South-downs, old Lincolns, old and new Leicesters, and Kents, and Kentish half-breds: the remainder, for the most part, polled Gloucesters, horned Dorsets, and Somersets; and a few Norfolk, and English-fed Scotch and Welsh sheep. We have, also, received, from Scotland, by steam packets, 1,230; and from Hull, 1,000.

Little, or nothing, has been doing, in store stock, or milch cows, at drooping prices.

The quality of the beasts exhibited this month— particularly that of those which have arrived from Norfolk and Scotland—as also of sheep and lambs has been, for the time of year, tolerably prime; whilst that of calves and pigs has been somewhat inferior—especially the latter which have reached the market, from Ireland, by steamers—the number of which is about 500.

Annexed, are the quantities of all kinds of slaughtered meat which have been sent, for sale, in the course of the month, to Newgate and Leadenhall markets, from the quarters beneath stated.

	BEASTS.	SHEEP.	CALVES.	Pigs.
	Number of Carcasses.	Number of Carcasses.	Number of Carcasses.	Number of Carcasses.
Scotland ..	72	4005	—	503
Yorkshire ..	49	2705	—	1287
Essex	33	286	515	549
Berkshire ..	45	359	965	187
Wiltshire ..	27	540	2455	213
Sussex	28	249	158	116
Surrey	70	317	540	811
Hampshire ..	47	606	1974	183
Devonshire ..	50	580	725	112
Gloucester ..	13	428	2650	210
Total ..	434	10075	9982	4176
Supply of preceding month. } 637	10316	5645	5217	
	203 less.	241 less.	4337 more.	1041 less, than last month.

There have also arrived, in addition to the above, 364 packages of roasting and boiling beef, from

various parts of England and Scotland, each package weighing, from 200 to 250lbs.

From Scotland and Yorkshire, the meat came, by steamers; from other parts of England, by vans and waggons.

LIVERPOOL, APRIL 11.

In our annual circular letter, *delayed unusually* to the 29th November last, we made statements of the imports of grain into this port for a long series of years, as usual ending 1st October of each year, with a report of the last harvest, from the best information we had then been able to obtain;—also on the 3rd day of January last we stated the quarterly imports to the 31st December last—with our estimate of the stocks free and in bond here at those respective periods, to both which we beg reference;—from communications made to us since from various quarters, we have the satisfaction to believe the observations therein made have proved generally correct, and we have nothing to add thereto, except to express our fears that the crops throughout Ireland and Scotland will prove *more deficient* in quality and quantity than our worst anticipations;—We now deem it useful to make comparative statements of the imports of the six months ending 31st March, 1837, (including those which pass up this river to Runcorn and Manchester,) with those in the same period of the five preceding years.

WHEAT.				OATS.			
Qrs.				Qrs.			
Ireland.	Coast.	Foreign.		Ireland.	Coast.	Foreign.	
1832..	245,500	26,250	9,740	278,500	18,200	..	
1833..	279,663	19,782	177	184,031	14,548	..	
1834..	203,084	16,224	19,612	149,085	18,581	35	
1835..	140,750	15,500	..	133,508	18,929	..	
1836..	156,722	36,869	321	167,249	20,925	430	
1837..	40,950	37,488	23,530	163,420	20,910	14,576	

BARLEY.				BEANS.			
Qrs.				Qrs.			
Ireland.	Coast.	Foreign.		Ireland.	Coast.	For.	
1832..	14,804	30,800	2,400	5,640	4,271	4,800	
1833..	14,108	33,697	..	6,930	3,750	..	
1834..	16,355	29,202	2,600	6,351	4,322	2,781	
1835..	18,880	36,800	..	9,360	1,816	610	
1836..	20,360	34,808	..	14,251	6,900	..	
1837..	27,200	33,940	9,100	6,655	5,510	7,800	

MALT.			FLOUR.			OAT-MEAL.	
Qrs.			Sacks.	Brls.		240lbs.	
Ireland.	Coast.		Irl. & C.	Foreign.		Ireland.	
1832..	2,487	33,500	97,200	15,700	110,800		
1833..	3,233	33,263	154,746	7,054	119,135		
1834..	1,202	42,948	159,435	3,929	92,482		
1835..	2,840	34,500	187,300	3,860	130,120		
1836..	3,500	46,576	236,097	3,967	153,652		
1837..	3,370	42,140	142,050	35,200	128,406		

It will be observed there is a *most extraordinary* deficiency in the imports of wheat and flour from Ireland this half year—the former article hardly amounts to one-third—the latter about one-half at the corresponding period last year! The quality of the former is very bad in every respect, so much so that a considerable portion is hardly saleable at our late lowest quotations, and the quality of the latter has been very dubious, and too generally unsound; thus our chief consumption has been running on the British and old Irish wheat, and if it had not been for the confined circle of our demand, by the continued large supplies into the Yorkshire markets, our stocks here must have been *completely exhausted*, and we would certainly have had much higher prices!—

of all other grain except wheat our stocks here at present free for home use are very small—of wheat estimated 65 to 70,000 qrs, being about half the quantity at this time last year;—prices have recently been declining in every article in the corn trade,—chiefly owing to the pressure in pecuniary matters, and a general want of confidence—but from the very bad winter seed time—the severe irregular winter—spring seed time far from favourable, and the *very backward season hitherto*, (although from this circumstance, which may soon be totally changed, no decisive opinion as to future prospects ought now to be adopted) a material advance in the value of all grain—for human food, as well as for provender—is very confidently anticipated, long before the result of the next harvest be ascertainable.

The stocks of grain here *in bond* on the 1st April, inst., are about 96,000 qrs of wheat, (exclusive of Canadian, which we consider free) 14,000 of oats, 5,000 qrs barley, 4,000 qrs beans, 2,000 qrs peas, and 76,500 brls flour. In the United Kingdom *in bond* on the 5th March last, 553,495 qrs wheat, 9,407 qrs barley, 226,834 qrs oats, 1,909 qrs beans, 4,760 qrs peas, and about 96,264 brls of flour.

During the past week the imports of grain have been again moderate, owing in some degree to a continuance of easterly winds, and sales have been very languid and limited here and in all the corn markets around, for every article in the corn trade, at about the prices of last Tuesday;—the weather has continued very cold and unseasonable, and the appearance of the country is very backward in every respect.

The only alteration in the duty on grain from foreign ports this week is an increase of 1s 6d per qr on oats;—some sales of flour in bond for export have been made at a small decline, but for *banded* grain there has been little demand, and prices remain nominally as last noted;—the exports stated are chiefly of previous purchases, or *consignments* to Canada.

JAMES SCOTT & SON.

STRATHMORE AGRICULTURAL ASSOCIATION.—On Thursday, April 13, the Spring show of this Association took place on the Market Muir of Coupar Angus. The stock exhibited were of the most select description. The premiums awarded by the judges are as follows:—

BULLS.

- For the best aged doddled bull, not exceeding six years of age—Mr. D. Halket, Dunkenny.
- For the best aged horned bull, not exceeding six years of age—Mr. Hood, at Hatton.
- For the best two-year-old bull—Mr. Geekie, of Rosemount.
- For the best one-year-old bull—Mr. Anderson, at Newton.

FAT STOCK.

- For the best pair of fat stots, reared and fed by the shower—Mr. Hood, at Hatton.
- For the best pair of fat cows or queys, do.—Mr. Hood.
- For the best pair of fat stots, at least six months fed by and in possession of, the shower—Mr. Hood.
- For the best pair of fat cows or queys, do.—Mr. C. Playfair, Easter Banochry.

Two four-year-old oxen, of the aboriginal Scotch breed, exhibited by Sir J. M. Mackenzie, Bart., were much admired, and called forth the highest commendation from the judges.

The members dined together after the show, in the Defiance Hotel, Coupar Angus.—P. W. Ogilvy, Esq., of Ruthven, in the chair, and James Wright, Esq., of Lawton, croupier. The evening was spent in the most agreeable manner, and a number of sweepstakes were entered into for the current year.

AGRICULTURAL INTELLIGENCE, FAIRS, &c.

HOWDEN SPRING FAIR.—This fair commenced on Saturday, the 15th instant; the attendance of dealers was both numerous and respectable—from London were observed Messrs. Dyson, Harris, Burfort, Fairburn, &c. Good horses of all descriptions fetched high prices. This fair may now be considered as permanently established, sufficiently as to render it advantageous for the breeders, both from the eastern parts and also from Holderness, and will, we hope, soon be preferred to the risk of crossing the Humber, and the expense necessarily incurred in taking them to Lincoln. On Monday the cattle fair was held, but there was only a moderate supply of lean beasts. Fresh drupe cows were nearly ten per cent. lower than this time twelve months, owing, no doubt, to the extreme backwardness of the season. Of fat beasts the show was small, realising from 7s 6d to 8s per stone, but none that was particularly attractive. Of in-calfers, or cows and calves, the number was small, and anything that possessed breeding was soon bought up at from 10*l* to 13*l* according to age and condition. The show of sheep was not very large, although the quantity kept in the neighbourhood has much increased of late years, yet the prospect for the price of wool at clip-day being favourable has induced numbers to hold. On Monday, at twelve o'clock, in a close adjoining the cattle fair, the show of stock for the premiums given by the Howdenshire Agricultural Society took place: the judges on the occasion were Mr. Thos. Fowler, Kirton Grange, Lincolnshire; Mr. Wiley, Jun., Brandsby, North Riding of Yorkshire; and Mr. Thomas Johnson, Ousefleet, West Riding of Yorkshire, who adjudged the following premiums:—To Mr. John Scolfield, of Faxfleet, for the best coaching stallion, Sir Henry, 5s. v. s.—To Mr. J. Burton of Saltmarsh, for the best coaching brood mare, 2 s. v. s.—to Mr. John Leek, of Hotham Carr, for the best hunting brood mare, 2 s. v. s.—to Mr. Bowser, of Faxfleet, for the best coaching gelding, 3 s. v. s.—To Mr. Hairsine, of Bellasize, for the best carting stallion, Royal Oak, 2 s. v. s.—to Mr. John Bowman, of Howden, for the best yearling colt by Paulinus (given by Mr. Wm. Burton, of Water Fulford), 5 s. v. s.—to T. Clark, Esq., of Knedlington, for the best bull, 3 s. v. s.—to Mr. H. Edwards, of Market Weighton, for the best breeding cow, 2 s. v. s.—to Mr. Wells, of Booth Ferry, for the best two-year old heifer, 2 s. v. s.—to Mr. H. Edwards, of Market Weighton, for the best yearling heifer, 2 s. v. s.—to Mr. Wells, of Booth Ferry, for the best fat ox 2 s. v. s.—to Mr. G. Galtress, of Howden, for the best boar (bred by John Hall, Esq., of Scorb'ro'), 1 s. v. s.—to Mr. G. Wilson, of Hive, for the best sow, 1 s. v. s.—to James Holmes, of Armin, agricultural labourer, he having brought up twelve children solely by his industry, 1½ s. v. s.—to Geo. Walker, of Holme on Spalding-moor, ditto, ten children ditto, 1½ s. v. s.—three other aged claimants were rewarded with 7s each. A sweepstakes of 20s each, for the best three-year old coaching gelding, 3 subscribers, to Mr. Bowser of Faxfleet; ditto of 10s each for the best yearling colt 3 subscribers; to Mr. Burton, of Saltmarsh; ditto of 10s each, for the best milk cow, 2 subscribers, Mr. H. Edwards, of Market Weighton. The show of horses was numerous, and the emulation for the premiums displayed most of the first horses in the East Riding. The show of Beasts not equal to former years; nevertheless from the immense concourse of farmers and others present, it is evident that the advantages deriving and to be derived from such institutions are operating powerfully upon the minds of agriculturists; and a more general disposition is becoming manifest to unite for the attainment of those objects, which constitute their interests, and which can only be attained by a union of feeling and exertion. We hope next year to have the pleasure of enrolling the name of every respectable and extensive

proprietor of lands in the neighbourhood as members of the society, the object of which is to promote the interests of the tenant farmers, by a general improvement of the stock, and to encourage and reward industry and frugality amongst the labouring classes. At two o'clock, a respectable party of the supporters of the above institution and their friends dined at the Half Moon Inn; T. Clark, Esq., the president presided as chairman, supported by Mr. Wm. Carter, honorary secretary as vice; and during the festive enjoyment, the prosperity of this institution, with others of the like nature, and of the agriculturists, with many loyal and patriotic toasts and sentiments were given by the chairman and his friends. One general good feeling of friendship and harmony continued to prevail in this meeting until a late hour; and a number of names were enrolled as members of the Howdenshire Agricultural Association for 1838. We understand several of the most eminent graziers in the neighbourhood have entered into an agreement, and pledged themselves, to bring forward all their horses at the next spring fair. The weather throughout was exceedingly cold.

At the **DEVIZES SPRING FAIR**, on Thursday, there was, perhaps, rather more than an average supply of horned cattle. The show of fat beef was small, but fetched higher prices than have been obtained for some time. Cows and calves, and lean stock, which, on account of the scarcity of feed, were numerous, had a dull sale, and but little business transacted among them. The number of sheep penned was small, the teggs generally were in very low condition, the prices from 15s to 25s per head, and but little business done. There were but few ewes and lambs, which met with a slow sale, although the rain which has fallen this morning operated rather in favour of the market. The horses exhibited, with the exception of a few fine ones of the cart kind, were few in number, of an inferior description, and did not readily meet with purchasers. In cheese a few tons only were pitched, which sold at prices, as at the previous market.

BARNSTAPLE GREAT MARKET, April 14.—Our market was well attended by buyers, but the quantity or quality of the beasts were not equal to former occasions. Fat heifers met a brisk sale at full 10s per score; really good barren heifers were scarce, and sold for 6s per score; inferior ones from 5s to 5s 6d. Good cows and calves were also scarce, at from 10*l* to 14*l* each; inferior ones from 8*l* to 9*l* 10s each. Fat sheep are much inquired for, and readily purchased at 8d per lb; poor ones almost unsaleable for want of keep. We never recollect such a cold barren spring; even in our best marshes there is scarcely any sign of vegetation. Hay and corn is getting scarce and dear, and we hear of cattle dying for want; we fear it will much injure, if not ruin, many farmers, and must be the means of raising the prices of the necessaries of life without benefitting any one.

TIVERTON MARKET, April 18.—This was our great market, at which a good supply of cattle was shown. There were not many prime fat heifers, such readily fetched 10s per score, inferior ones from 6*l* to 1s below that price, with a good sale. Cows and calves were plentiful, but most of them of a very inferior description; sale rather dull at from 8*l* to 11*l* each; barreners dull sale at from 5s to 6s per score. There was a good supply of sheep; fat ewes and wethers a quick sale at from 7*l* to 8*l* per lb; poor sheep almost unsaleable at low prices. We must not forget to notice ten beautiful weather hogs (shown by Mr. Henry Gale, of Mare Farm, Tiverton,) which were generally admired and considered equal, if not superior to any that can be produced this disastrous season; they were judged at 23 pounds per qr, and fetched 2*l* 19s each. The weather

still continues cold, and vegetation at a stand; we fear the most disastrous consequences, if a favourable change does not soon take place. Many, very many farmers, have scarcely any hay or straw left, and we know one person in our neighbourhood having lost five bullocks from actual starvation, and another that has six or seven so weak that they are obliged daily to assist them in getting on their legs.

CHESTER.—We are sorry to say that in consequence of the backward state of the season, there is scarcely any appearance of grass on the land for miles around this city, and we have heard, but hope our information is not correct, that in some places cattle have died for want of food. Hay has risen so an enormous price; vast numbers of loads have been carried through Chesier this week for which eight or nine sovereigns per ton was paid. It is to be hoped that the landed proprietors will take the depressed state of the farmers into their serious consideration, and grant them that assistance which they so much need under the present trying dispensation of Providence.

PERTHSHIRE FARMING SOCIETY, April 14. —**SHOW OF STALLIONS AND BULLS.**—On Friday the annual competition in stallions and bulls, for the premiums awarded by the Perthshire Farming Society, took place on the South Inch here, when a number of very superior horses came forward; and although on some former occasions we have seen a greater number, we have seen a greater number, we have never at any previous competition observed so fine a selection of animals. The premiums for the stallions were gained by "Champion," the property of Mr. Keith, Netherthrid, Aberdeenshire, and "Strathearn Star," belonging to Mr. Dron at Criefvichter. There were also some very handsome bulls of the short-horn breed exhibited. The first premium for which was gained by Captain Hunter, of Auchterarder. The second by Wm. S. Turnbull, Esq., Huntingtower. The first premium for one year old short-horned bulls was gained by the Right Hon. Lord Rollo. The second by Wm. S. Turnbull, Esq., Huntingtower. After the competition, upwards of forty of the members of the Society dined together in the Salutation Hotel. Sir J. P. McKenzie, Bart., of Delvine, in the chair. Captain Hunter, of Auchterarder, croupier.

SCARCITY OF FODDER.—In consequence of the failure of the hay crops last year, the sheep in the mountain districts are in a state of starvation. The whole country is covered with snow. So great is the scarcity of food, that several carts laden with ivy, from the vicinity of Keswick, have been carried up the mountains in the hope of keeping the poor animals from famishing. Some sheep farmers are losing from ten to twelve sheep a day.—*Cumberland Pacquet.*

THE WEATHER AND FLOCKS.—The severity of the weather had somewhat moderated during the last week, although the nights were still very cold with hoar frost like mid-winter, but on Tuesday evening the wind shifted to the south-east, and during the night a thick dew fell, followed next day by a high temperature, the effects of which are already visible on our Inches. The change, however, has come too late to save the flocks in the higher districts; many of the ewes have perished from want of food during the last fortnight, and it is not possible to avert a very extensive loss of lambs. Except, however, among the Leicesters on the home farms, the lambing season can hardly be said to be yet commenced; but the proportion of deaths among the latter, indicate the extent to which loss may be apprehended among the common stock.—*Perth Courier.*

The loss to farmers, from want of keep for their cattle, is seriously great throughout this and the adjoining counties. Thousands of sheep and lambs have perished from the two-fold mischief, of hunger, and the malady to which it leads. The price of hay is in this town, 8/8s per ton, and still higher as our agents report in the various towns in this county.—*Taunton Courier,* April 19.

LUSUS NATURÆ.—A ewe, belonging to Mr. T. Pape, of Helmsley, last week, lambed two lambs, one of which has five legs. Both are doing well, and likely to live.—*York Herald.*

THE HIGHLAND POOR.

Our sympathies have been considerably excited, and our feelings powerfully appealed to, in relieving the distress prevailing amongst the "Highland Poor" in Scotland; it seems that many thousands of the Highlanders have for some time been in a state of almost perfect starvation. Means have very properly and humanely been taken to ameliorate this dreadful state of suffering, by the contributions of the charitably disposed. But the administration of alms is at the best a miserable mode of relief, and the benefits which arise from it are only temporary. The crust that is given is soon eaten—and what next? It is obvious that quite a different plan must be pursued to eradicate, or permanently ameliorate the evil. When we are told that there are a hundred thousand people, less or more, starving in wretched mud-hovels on the barren sea-shores of the Highlands and Islands, we naturally put the question—what business have these people there? Why, we ask, are a hundred thousand human beings quartered in such a sterile, hopeless locality? Perhaps we may be told that they have been born and bred there. But that is no answer. Men are not vegetables: they have the power of locomotion; they have been designed to spread abroad over the earth, and not grow to it like plants. In this, as in a thousand of similar instances, the unhappy love of place, a prepossession for a particular locality, is the grand obstacle to social advancement. It is the fatal attachment to local situation, which produces this state of things. Many families would rather starve than remove a distance of twenty miles. Sometimes rather than go over the hill to the next town, where comfort predominates. The excuse that they are uncertain of getting employment, is always ready in these cases. The truth is they are averse to the trouble of removing, or of forming new habits. Hence, the curious fact in statistics, that, although hand-loom weaving was finished as a profession twenty years since, still numbers of young men continue to enter it. They voluntarily embrace a line of life which yields them only about a shilling a day, rather than leave the place of their birth to enter other professions, which would yield them three shillings a day. Such is human nature. It has always appeared to us that in regard to the Scottish Highlanders, we are too much under the influence of feeling, and too little under that of reason. The romantic circumstances of the people in former, and even in present times, seems to unfit us for forming cool judgments respecting what is best for their interests. In a late Number of the Statistical Account of Scotland, the inhabitants of large tracts are described as to the last degree poor and miserable, and to the last degree (with few exceptions) pious and contented. We have then the most incontestible evidence that a large population clings to a country in which there is no use for their services, (being now chiefly devoted to pasture) and which refuses them even in ordinary seasons, a proper sustenance; being, in fact, ignorant of any thing better, and perhaps unable of themselves to accomplish a removal. Surely a part of the machinery now at work for educating this forlorn people, might be well employed in enlightening them as to the absurdity of their growing up to idleness and misery on their native soil, when they might do better elsewhere. We would also press upon the attention of persons in authority the propriety of forming some regular system for the gradual removal, under humane regulations, of the Highlanders to the great seats of industry. In the hands of a few active committees, composed of persons engaged in manufacturing pursuits, the process would neither be difficult nor tedious.

REVIEW OF THE CORN TRADE

DURING THE MONTH OF APRIL.

The past month has been one of considerable trial to the anxious hopes and fears of the farmers; few gleams of sunshine have appeared before nearly the close of the month to cheer their prospects, nor have nature's powerful agents, heat and moisture, been apparently in operation to promote the necessary advances of the vegetable kingdom; the apprehensions however, entertained by the growers, have been chiefly founded on the present aspect of the fields, compared with similar periods of later seasons, and it is true that the conclusions thus momentarily come to, could not be fraught with any very favourable results. But it is to be remembered, that the current year, from its peculiarly unseasonable character, forms no fair criterion for judgment, and the causes and effects must have a more extended range for deducing an opinion from, than the few past prolific and favoured seasons, as it is with them the comparison is generally made. We forget not that at this period during the last five years the young wheats had tillered out, their curling blades covering the land with a rich bed of deep luxuriant green, and that now the eye wanders over fields almost bare of verdure; yet we have no reason for imagining (that the root of the wheat plant is affected, or that the germ of vitality is destroyed, therefore with a return of mild temperature and genial showers, as we are now experiencing, the vegetative powers may soon evince they have been only lying dormant, and are fully capable of ultimately gratifying the sight of the agriculturists with the ripe harvest of a full average return. The roots of the wheat plant strike so deep, and draw their nourishment from so extended a penetration into the earth, that experience proves, it matters little the injury the blade may receive before the spring growth. Had vegetation received any material check, had all the vitality of the plants been ready to burst forth into "open day" and the circulation of the juices had become paralyzed by any sudden prevalence of intense cold, then might we be fearful of the future consequences; but the weather, previous even to the germination of winter corn, having been ungenial, not at any one time having afforded a stimulus in expediting the growth, all vegetative action has been, as it were, in embryo, and well therefore, it may be sanguinely expected, on feeling the beneficial effects of spring, to come into being with redoubled vigor; but it must be allowed, that the retarding of the seed time, in the more northern districts, renders the securing of the crops more precarious; from these combined circumstances, of unpropitious weather for the winter as well as the spring sown corn, farmers have been induced to speculate, and retain their stocks in anticipation of realizing a much higher range of price; so much so, that though the country markets have not exhibited any diminution of supply, yet farmers rather than part with their wheat at the current rates, have taken their samples home, and the opinion prevailing is, that before the result of the next harvest is ascertainable, that a material advance in the value of all grain for human food as well as provender will be experienced. But we would here remark that while the present pressure for money remains, and mercantile confidence is shaking to its very foundation, little hope can be, in possibility entertained in the

reaction of any commodity, until it can be ascertained who are, and who are not able to stand their ground. In all convulsions of the monetary system it follows as a sequence, that purchases and sales are regulated by the necessities of individuals, and not by any generally recognised standard of value as in ordinary times; consequently the prices of those articles whose consumption is pressing on the power of production, recede the slowest in value, though they cannot long maintain any great disproportionate range of value; but where the reverse is the case, articles are precipitated even below the cost of production. During, therefore, the transitory stage in this value of commodities, nobody purchasing beyond what is necessary for the supply of immediate wants, the disengaged capital accumulates nearly in proportion to the increase of commercial difficulties, and becomes concentrated in the metropolis; as at the present moment, instead of being diffused over the provinces for the support of industry. Country bankers are stating they have no dearth of gold, and among London discount houses and banking houses there is no scarcity of money, but there is an increased degree of circumspection, or rather fastidiousness, as to the character of paper, which renders it entirely unavailing to the smaller, but probably not the less secure operators both as merchants and manufacturers. Everything militates, therefore, more in favour of the reputed large capitalist, than in ordinary times, and for want of the usual accommodation the minor class of operators are compelled to dispose of their property to meet the claims against them, under every disadvantage.

As therefore it is evident, that for a considerable time the demand for all articles will be very nearly measured by the actual consumption, it is equally evident that, under all these contingencies, it is highly improbable that the value of grain can be enhanced, more especially as it has continued to bear a high relative value compared with other commodities, and that it must eventually share in the general depression; which, taking together the profits of manufacturers and wages of the operatives, has exceeded in too many instances 30 per cent; unless, then, positive scarcity is experienced, or the growing crops ascertained to be decidedly injured, no reaction in the markets can be anticipated; yet as the stocks are reported to be considerably diminished in all the principal corn depots of the kingdom, prices must be necessarily more dependent on the above circumstances, as well as on the speculative inclination and capability of growers to withhold their supplies. It ought, however, to be observed, that though there are perhaps throughout the country less wheat ricks than usual at this period of the season, yet it is generally supposed that farmers hold a large quantity of this grain in the chaff, &c., as they have threshed out freely from the want of straw for the cattle, the long continuance of winter having generally exhausted the stocks of fodder.

The remittigation in the severity of the weather has enabled the farmers in Ireland to make considerable progress in sowing, owing to the high state of preparation the ground has arrived at from the cold drying weather, and perhaps in no former year was field labor more easily performed than at pre-

sent, owing to the extreme mellowness and friability of the ground, which really pulverises without effort. The supplies have on the whole been limited, partly in consequence of farmers holding for better prices, and partly from their being engaged in out-door labour, the currencies are therefore generally steady for all the finer qualities of wheat and oats; the latter article continues to meet demand, and in many instances at improving prices, as well as the article of oatmeal and barley, since the intelligence has been received from our country, that in several districts the farmers had recourse to oats to feed their cattle, from the extreme dearth of all other natural and artificial feed.

In Scotland the currencies of wheat and oats are maintained with extreme firmness, and peas much required. In the neighbourhood of the Highlands the alarm is so great on the part of the farmers from the deplorable distress and destitution of the Highlanders, that they will scarcely sell their grain at any price; and at most of the Northern markets the currencies are ruling firm owing to the short supplies of the farmers, who are speculating on higher prices. Field labor is extremely backward, snow having been laying on the ground scarcely a week since. In some places not a furrow has been hardly turned over for more than a month, and little seed committed to the ground. Horses have been in very low condition, owing to the inferior quality of the general runs of feed oats, and cattle have been suffering severely from the want of fodder, and considerable sacrifices being made in their immediate disposal, rather than incur the chance of their entire loss by starvation. Sheep and lambs have been dying from cold and want of food, and the failure in the turnip crop having created a material source of privation for the stock. In Shetland, in order to save the residue of their cattle, they have been forced to encroach on their stock of grain reserved for seed. From Glasgow it is stated that the shipments of potatoes from Ireland, the Western Highlands, and Ayrshire, to the ports in the Clyde, are so extensive that prices are fast receding, and the larger holders, who have been keeping back for enhanced rates, are likely to be losers by outstanding the market. We are glad to find that the fisheries off the Scotch coast have been extremely productive this season, which may partially mitigate the distress of the Highlanders and Islanders. While reverting to this topic we would refer our readers to some philosophic remarks on this important and interesting subject, which will be found at page 398, under the head of The Highland Poor."

The supplies of wheat from those counties usually supplying the London market have been during the month on rather a liberal scale, considering the season of the year, and have proved more than adequate to the demand, which, owing to the reasons we have previously assigned, has been confined to the actual wants of the millers, the market having been totally unrelieved by any speculative sales; towards the middle of March and prior to the favourable change of the weather, the improved character beginning to be apparent of the country markets induced more firmness on the part of holders, and the better runs rallied and obtained 1s per qr more money; millers who had been working up their stocks, buying with more freedom; but the appearance of mild weather and plentiful showers of rain checked all disposition to speculate, and acted rather as an incentive to millers to endeavour to quit their stock of flour than run any hazard of suffering loss from its turning sour; the demand therefore slackening, prices receded, the finer wheats being fully 2s per qr cheaper

than at the commencement of the month, and inferior descriptions 3s to 4s.

The dull accounts received from the United States have created a considerable degree of heaviness in the bonded market, and purchases could be made at a reduction of 2s to 3s per qr. Purchasers have latterly appeared, but they are only bidding such low prices that holders are not at present at all inclined to listen to the offers, though it is not improbable that a favourable *conjuncture* may arise for speculative investment, as the severe and ruinous pressure in America on the money market must not only operate heavily in depressing the prices of grain, but the currencies are also likely to receive an additional cause of reduction from the quantity of foreign corn, which is being directed to the different ports from all parts of the world, and as there are likely to be large imports into England from the Baltic, and principally of the finer qualities of Volhynian, and other Polish wheats, holders, from the want of an immediate vent by re-export, as previously anticipated, may be induced more readily to realize in loco, besides that a good assortment will be afforded the party wishing to invest in the article. Some good Danzig, recently arrived, has been sold at 37s to 38s, and red held at 33s to 35s per qr. The exports have been principally of wheat and flour in bond to the North American settlements, to which destination about 15,000 qrs and about 9,500 cwts have been entered; besides 6,600 qrs to the United States, and 5,000 cwts of flour to the West Indies. Bonded flour meeting sale at from 25s to 27s per bbl of 196lbs. which is an enormously high relative value compared with the price of foreign wheat.

Barley has come freely to hand and suffered the most depression in value of any article in the trade. Malt, from the causes we have more than once referred to, has remained in a dull inactive state, even at the low currencies, holder were inclined to accept; and as many maltsters from the advanced period of the season have desisted from working, the finer descriptions of Barley have become almost unsaleable even at a reduction of 2s to 3s; distilling qualities have also met a limited demand, and are 1s to 2s per qr lower, but grinding descriptions having attracted more attention for feed, owing to the scarcity of fodder, have sustained little depreciation. Bonded barley extremely dull at 17s to 19s, fine, 20s.

The accumulated stock of inferior oats which pressed on the market at the beginning of the month, being relieved by a speculative demand induced by the lowness of the currency, caused the market to assume a firmer appearance, which, however, was checked by a large arrival of English and Irish, but being met by an extensive country demand for feeding cattle, the trade rallied, and fresh feed corn of all descriptions obtained 1s per qr more money; and as vegetation continued backward, and difficulty found to keep stock, prices were maintained until the long expected appearance of spring weather gave fresh elasticity to the hopes of consumers, who curtailing their purchases, in expectation also of increased arrivals, caused the market to become languid, and the imports augmenting from Ireland, prices receded fully 6d to 1s per qr on Irish qualities, and English light feed declined, but good stout qualities, and especially Scotch, being comparatively scarce, maintained full currencies, and Scotch potatoe tending upwards in value. Bonded oats have experienced a retail demand for export to the West Indies, at from 14s to 18s per qr.

Beans having come less freely to market, and meeting an improved demand, must be noted 2s per qr higher; peas have been in very limited show, and

orders having been received from Scotland, with some speculative shipments also to the north, has enabled owners to realize fully 2s to 5s per qr more money.

The flour trade has sustained no alteration in the top price of town-made flour, but it is expected to become nominally 53s; Ship's flour has receded 1s to 2s per sack, holders having latterly become anxious to rid the wharfs on the approach of the warm weather.

The alteration in the duties consist of an advance of 1s 6d per qr on barley, 1s 6d on oats, and 2s 9d on rye.

During the month of April the following quantities of grain and flour have arrived in the port of London:—

	WHEAT. qrs.	BARLEY. qrs.	MALT. qrs.	OATS. qrs.
English	27791	32528	33289	27457
Scottish .....	..	220	85	3032
Irish .....	..	30	..	64701
Total in April...	27791	32778	33374	95290
Total in March...	30581	38444	46431	147540
Total in Feb.....	22077	27575	29211	115492
Foreign in April..	6603	3647	..	6701

	BEANS. qrs.	PEAS. qrs.	LINSEED. qrs.	FLOUR. sacks.
English	6550	1901	243	41533
Scottish	8	..	..	..
Irish .....	..	..	..	1230
Total in April...	6558	1901	243	42763
Total in March...	7899	3959	243	43369
Total in Feb.	6989	4863	..	35180
Foreign in April..	827	1110	6638	7409

Advices have been received from Hobart Town and Launceston, Van Diemen's Land, dated the 1st and 3rd of November, which contain little information satisfactory to the shippers to the Antipodes. The increase of arrivals, favourable prospects of the harvest, and anticipated additional supplies had depressed the currencies of Wheat to 4s. 6d. and 5s. per bushel; Flour being noted at 25s. to 27s. per 100lbs. The quantity of acres under cultivation had increased from 1828 to 1836, from 34,033 to 87,823; the population of the Island was estimated at 40,000.

In Canada, on the 28th of March, the prices of Grain and Flour were still ruling high, owing to the want of supply, and the drought which had been sustained by the stocks in Upper Canada, in order to meet the demand, and advanced offers of the purchasers from the United States. Wheat at Montreal was noted at 7s 6d to 8s 5d per minot, good qualities averaging about 8s per minot, a measure 3 per cent larger than the imperial bushel. Superfine flour was noted at 60s, fine 55s, middlings 50s to 52s 6d; and by the moving of the ice in different parts of the country, and a *freshet* having been experienced in the Hudson river, the approach of spring was being indicated. Prices of flour at Kingston, Upper Canada, were noted at 45s to 50s per bbl; but farmers were not placing much reliance on the currencies, as they found they were fluctuating from day to day, entirely as the supply or demand happened to prevail.

At Halifax, on the 3rd of April, the prices of flour were maintained, Quebec fine being noted at 60s per bbl; Hamburg 50s to 55s; oatmeal 24s per cwt. Owing to the extreme distress experienced by the Colonists, especially the small farmers, and those in the newly settled parts of the province, from the

failure in the crops and the positive scarcity of seed both of grain and potatoes, strong representations had been made to the "Legislative Assembly," imploring assistance; and the Assembly had in consequence been induced to pass a bill prohibiting the export of wheat, oats, and potatoes from the province until the 10th of June, and from the Island of Cape Breton until the 1st of July next. The manufacture of flour in Nova Scotia was so much improved, that a few bbls produced by Mr. M'Donald and sent to New York, had been marked by the Inspector of flour at that city as superfine.

From Kingston, Jamaica, we learn that the market being bare of American flour, the bakers had been ultimately obliged to resort to the better descriptions of English and German flour, and a parcel of the former, per Clio from London, had been in part sold at 80s per bbl currency, and good Stettin at 66s 8d; but the market was largely supplied with inferior qualities of German, which were held at 53s 4d for the consumption, that is including the duty of 10s per bbl. Danzig flour for export had sold at 50s, equal to 60s for the consumption. The seasons have not been favourable for ground provisions, and it is therefore probable that a good consumptive demand will be experienced not only for the German flour, but also Indian corn, meal, and rice. The imports of flour during the current year ending 11th March, had exceeded those for a similar period in 1836, by 4,500 bbls.

At Port Louis, Mauritius, Danzig flour per bbl of 180lbs was quoted at 26s to 28s sterling; Cape of Good Hope ditto, 26s to 28s per 100lbs. Wheat, European, 10s to 12s per 100lbs; oats, ditto, per 100lbs, 9s to 9s 9d½. Grain in British bottoms being free, and on flour a duty of 1 per cent ad valorem imposed.

The accounts received from France exhibit a firmness generally in the prices of wheat in all the markets except those situated in the more Southern Departments, where the influence of the cold, ungenial and moist unseasonable weather had not extended. Fine wheats are held at full rates or improving prices; and though no material detriment is yet anticipated to have resulted to the young wheat plant, yet every day of frost at this advanced period renders the crop in a more precarious state; rye, however, is reported as having suffered severely in the light lands of Sologne, Berry, and the centre departments. Oats are backward, but not much apprehension yet entertained for the produce, except in Brittany, where the winter oats are more particularly cultivated. At Bayonne the prices of all provisions are ranging exorbitantly high; bakers complaining, and the poor uttering murmurs "deep and loud" at the scarcity of bread and all the necessaries of life. Wheat is noted at 49s 10d to 54s; rye, 31s 10d. More unfavourable weather had not been experienced in the memory of man; hail, snow and rain alternately prevailing. At Bordeaux the continued influx of wheat had further depressed prices. At Marseille the supplies of wheat were liberal, both of native and foreign growth; holders were endeavouring to realize more money, which purchasers not acceding to, caused the trade to rule dull. The stock of free wheat was estimated at 50,600 qrs and 10,000 bales of flour, and 22,500 qrs in Bond.

At St. Petersburg sales of Rye have been making at 19s per qr for May delivery, and Oats at 10s 6d. Linseed deliverable in August, had obtained 34s 11d per qr. At Riga the demand for grain had subsided; good Oats were offering at 10s 11d to 1s 3d per qr, all the money advanced, or 12s 3d with only 10 per cent. Rye, 16s 8d and 17s 9d, according to

contract of payment. Crushing Linseed, 33s 8d to 34s 7d, but any increased demand would enhance these prices. At Königsberg the trade has continued heavy, owing to the pressure on the money market, and the shipping season not having commenced. Rye has been selling for Norway and Denmark, at 16s to 16s 3d new, and 18s to 19s old. Wheat quite nominal in value. At Danzig the river floodgates had been opened, and several vessels arrived at the city, and great bustle in shipping business consequently prevailing, but the progress in shipments had been comparatively limited, owing to the unfavourable character of the weather; supplies were coming to hand freely down the Vistula, which from the absence of demand and unwillingness, on the part of holders to force sales, were going into warehouse, and the granary rents consequently advancing, and no engagements would be entered into, at even 2s per month per last; good high mixed Wheat was stated as having been offered underband at 30s, and trade quite nominal, which exhibits a decline, of fully 5s to 6s per qr during the previous month. It was expected that the long continuance of the cold and changes experienced in the weather during the season, would prove injurious to all winter sown corn, as well as Rape plants. In Pomerania also, the weather has been extremely unfavourable for vegetation, but the prices of grain at Stettin had sustained no variation in price. The red Silesian Wheats were in excellent condition, and capable of sustaining a lengthened voyage; the currencies quoted were 30s. Rye had been shipping to the United States at a freight of 11s and 7½ per cent, and to Quebec at 11s to 12s. At Rostock grain generally was advancing in value, as the farmers owing to the unfavourable weather, were holding for better prices. Granaried Wheat was quoted at 32s to 33s; Rye, 23s to 24s. Vessels were loaded ready for sea. In Holstein the inquiry for shipment continued only partial, but as the finest quality and condition were required for export to the United States, such samples were held at 30s to 31s for the consumption, to which sales were principally confined, quotations ruled lower. Though the weather since the commencement of the year had been extremely trying for the Rape plant, yet it was not apprehended that any serious injury had been sustained, and if partial loss was experienced, it was likely to be made up by the extended cultivation of the article.

By a Royal ordonnance at Stockholm, dated the 7th of April, the export of all kinds of grain is permitted from Sweden, duty free, during the current year.

At Hamburg rather more animation has been latterly prevailing in the Wheat trade, and an advance of 6d per qr had been realized, a speculative demand having arisen, and a few shipments again making to America; prices were noted at 32s for best qualities of new red Upland. Summer grain was also improving, in consequence of the increased demand for fodder in the country. The weather had been most unseasonable, with heavy falls of snow, which was impeding the usual course of internal communication, and endangering the lives of many cottagers in remote places, whose dwellings were quite enveloped in the "fleece cloud." The stock of Barley had been diminished by the demand for Norway &c, and the granaried stocks having become limited, Silesian and Bohemian Barley was being held at 19s to 19s 3d per qr. Reports state from some parts of the country that the Rape plant had sustained serious injury from the recent weather, others contradict them, therefore, notwithstanding the im-

proved accounts from Holland, and the execution of several orders thence, the prices had not ranged higher than 22l 10s to 24l 10s per last.

Owing to the influx of foreign corn into New York, and the bulk proving inferior in quality, the trade has become extremely dull and prices materially lower.

Sales of flour have been made of very handsome Ohio New Orleans, at 9 dollars 50 cents, and superfine New Orleans 10 dollars. Quotations are almost nominal, as the transactions taking place were insufficient to give stability to prices. New York, superfine, 10 dollars to 10 dollars 50 cents; Western Canal, fancy, 11 dollars per barrel. Rye Flour was coming to hand more freely, and had declined to 8 dollars in small parcels. The stock of foreign wheat, though excessive, being estimated at 500,000 bushels, was constantly augmenting, and holders, in their anxiety to effect sales, show an increasing disposition to accede to reduced prices. White wheat, in auction, has sold at 1 dollar 50 to 70 cents, and red at 1 dollar 30 to 38 cents; this wheat was stopped selling a few weeks ago at 2 dollars 3 cents. Foreign Rye has been appearing in greater quantities, and has rapidly declined in value. Dutch, for milling, has been sold at 1 dollar 12½ cents., but now the article is offering at a dollar without realizing it, and has been sold on time at 90 cents. Oats are plentiful, northern selling at 68 to 70 cents, southern 50 to 55.

The flour market at Baltimore was in a very unsettled state; Howard Street qualities noted at 10 dollars from store, and 9 dollars to 9 dollars 50 cents from waggon; city mills flour, 9 dollars, ordinary brands. There were large quantities of German wheat offering, but dealers unwilling to buy; prices therefore nominal at declining rates.

Superfine flour at New Orleans had receded to 8 dollars 50 cents, with a moderate stock.

At Cincinnati the market was dull, flour had declined to 7 dollars, wheat, 1 dollar 25 cents.

CURRENCY PER IMPERIAL MEASURE.

	BRITISH.		APRIL 1.		MAY 1.	
	s.	s.	s.	s.	s.	s.
Wheat, red, Essex, Kent, Suffolk.....	50	62	50	60	50	60
White.....	52	64	52	62	52	62
Norfolk, Lincolnshire and Yorkshire.....	40	56	40	56	40	54
White, do. do.....	46	60	46	58	46	58
Irish Red.....	48	52	48	50	48	50
Ditto White.....	50	52	48	52	48	52
Barley, Malting, new.....	32	35	30	32	30	32
Chevalier, new.....	34	38	32	34	32	34
Distilling.....	31	31	30	32	30	32
Grinding.....	24	28	24	28	24	28
Irish.....	24	29	24	27	24	27
Malt, Chevalier.....	46	50	46	50	46	50
Ditto, Brown.....	58	60	58	60	58	60
Ditto, Norfolk and Suffolk Pale.....	54	58	54	58	54	58
Ditto Ware.....	57	59	57	59	57	59
Peas, Hog and Grey.....	31	34	33	36	33	36
Maple.....	32	35	35	38	35	38
White Boilers.....	36	38	38	40	38	40
Beans, small.....	34	42	34	44	34	44
Harrow.....	36	40	36	42	36	42
Ticks.....	34	38	34	40	34	40
Mazagan.....	34	38	34	40	34	40
Oats, English feed.....	22	26	22	25	22	25
Short small.....	24	28	24	28	24	28
Poland.....	25	28	25	29	25	29
Scotch, Common.....	22	27	22	27	22	27
Berwick, &c.....	24	29	24	29	24	29
Potatoe, &c.....	25	30	25	30	25	30
Irish, Feed.....	13s 0d	23s 0d	18s 0d	23s 0d	18s 0d	23s 0d
Ditto Potatoe.....	20s 0d	26s 0d	20s 0d	25s 0d	20s 0d	25s 0d
Ditto Black.....	16s 0d	23s 0d	18s 0d	23s 0d	18s 0d	23s 0d

PRICES OF FLOUR,

Per Sack of 280 lbs.	APRIL 1.		MAY 1.	
	s.	s.	s.	s.
Town-made.....	50	55	50	55
Norfolk, Suffolk, Kent, and Essex.....	43	44	41	42
Sussex and Hampshire.....	42	43	40	41
Superfine.....	44	—	42	—
Lincolnshire, Yorkshire, and Stockton.....	41	43	40	42
Northumberland, Berwick, and Scotch.....	42	43	40	42
Irish.....	42	45	41	43
Extra.....	46	—	44	—

IMPERIAL AVERAGES.

Week ending	Wheat.	Barley	Oats	Rye	Beans	Peas.
10th March	56 7	32 2	23 134	5 37	0 35	11
17th "	56 9	31 7	22 8 36	10 36	8 35	8
24th "	56 8	31 6	22 8 36	7 36	10 35	8
31st "	56 2	31 11	22 7 36	7 37	2 35	3
7th April	55 11	31 5	22 7 33	2 37	11 36	11
14th "	55 5	31 0	22 8 33	11 36	11 37	0
Aggregate Average of the six weeks which regulates the duty.....	56 3	31 7	22 9 35	3 37	1 36	1
Duties payable in London till Wednesday next inclusive, and at the Outports till the arrival of the Mail of that day from London.....	30 8	15 4	13 9 16	9 14	0 15	6
Do. on grain from British possessions out of Europe.....	5 0	2 0	2 0 3	0 3	0 3	0

Foreign Flour, 18s 5d per 196lbs. Bran 20 per cent *ad valorem*. British Possessions Flour, 3s per 196 lbs.

STOCK OF GRAIN, FLOUR AND CLOVER-SEED IN BOND IN THE PORT OF LONDON ON THE 5th APRIL.

Wheat.	Barley.	Oats.	Beans.	Peas.	Flour.	Cloversd.
qrs.	qrs.	qrs.	qrs.	qrs.	cwts.	cwts.
216,239	4,937	62,646	1,680	5,758	29,341	31,068
Rye,— qrs						

An Account of the quantity of Foreign Grain and Flour imported into the United Kingdom during the month ending the 5th April 1837; the Quantity on which the Duty has been paid for Home Consumption, and the quantity remaining in Warehouse.

Foreign Grain and Flour.	Quantity imported.	Quantity entered for consumption	Quantity in Warehouse.
	qrs. bush.	qrs. bush.	qrs. bush.
Wheat from British Possessions.....	...	1804 2	26539 7
Ditto Foreign.....	9319 5	169 5	484319 6
Barley.....	19730 0	6770 0	20427 3
Oats.....	11557 2	678 3	232687 6
Rye.....	3221 2	2820 2	415 6
Beans.....	10626 2	2003 3	9596 7
Peas.....	9041 6	1917 5	11306 7
Flour from British Possessions.....	1914 3 0	1470 1 10	6406 3 12
Ditto Foreign.....	36184 0 11	118 0 21	168225 3 27

PRICES OF SEEDS.

APRIL 24.

The arrivals of Cloverseed from abroad have been limited, not exceeding 24 casks and 101 bags from Hamburg, 26 bags from Rotterdam, and 5 bales from Harlingen. The amount which has paid duty since this day week, shows a considerable falling off in the quantity, which is now being brought into the consumption, not being more than 2,600 cwts. Prices having attained a point of reduction which is inducing speculation, and holders of several parcels withdrawing their samples from market, preferring to keep it over, than accept the prevailing currencies, quotations are not likely to sustain further depression; but as the consumptive demand, though protracted, is not yet entirely satisfied, a slight fluctuation may be experienced favourable to the seller. White Seed remains also unaltered from last Monday with a very limited business doing in both red and white. Trefoil firm, and rather more money demanded. Linseed,

which has been held at improving prices, was to-day, owing to the change in the weather, difficult of disposal and prices barely maintained. The unfavourable reports of the state of the Rape plant in France, Holland, parts of Germany, and in Denmark, has given more firmness to holders; and the higher relative prices in Belgium have caused the shipment of 1500 qrs to Ostend and Antwerp the past week. In Caraway and Coriander little doing; Mustard meets less attention, but prices unaltered; Canary hangs on hand at the previously reduced prices. Tares extremely difficult to quit at 4s 6d per bushel. The arrivals of Oil Cakes comprised 15 tons from New York of Rape Cakes, 47 do. from Hamburg with 33 ons of Linseed oil, from the same port. A fair demand has been experienced for Linseed Cake the past week at fully former prices, but to-day it was dull. In Rape little doing.

HOP INTELLIGENCE.

APRIL 24.

The demand for Hops continues very limited, without the slightest alteration in prices.

PRESENT PRICES.

	£ s.	£ s.	£ s.
East Kent, Pockets, fine.....	4 10	5 5	fine 7 0
Bags do.....	4 4	4 15	5 18
Mid Kent Pockets do.....	4 2	4 15	6 6
Bags.....	3 10	4 13	5 10
Weald of Kent Pockets.....	3 10	4 10	5 4
Sussex, Pockets.....	3 10	4 4	4 12
Yearlings.....	2 10	3 3	4 2
Old olds.....	1 1	1 10	2 2

POTATOE MARKET.

SOUTHWARK--WATERSIDE, April 24.—The supplies on the whole have been moderate, though large in proportion from Yorkshire, consisting of 787 tons of red, 200 ditto kidneys, and 70 ditto Shaws. From Devonshire the receipts have been 115 tons; Suffolk 209 ditto; Wisbeach 193 ditto; Scotland 317 ditto; Guernsey and Jersey 225 ditto; and Antwerp 250 sacks and 60 bags. The weather continuing cold during the early part of the week encouraged the consumptive demand; but since Friday the fall of rain, with milder temperature, proving advantageous for the progress of vegetation, is likely to check further advance. The salesmen having, however, succeeded in realising since this day week an improvement of 5s per ton, and 10s on Yorkshire reds, and as the demand is keeping commensurate with the supply, these rates are likely to be maintained at present, as potatoes having got into less hands, any influx of the article is not expected.

Per ton of 40 bushels.

Yorkshire reds.....	100s to 110s	Lynn Kidneys.....	—s —s	
Do. Kidneys.....	100s	Suffolk Whites.....	75s 85s	
Do. Shaws, for seed.....	100s	—s	Kent Kidneys.....	—s —s
Devonshire reds.....	95s 105s	Do. whites.....	—s —s	
Scottish reds.....	80s 90s	Jersey & Guern. blues.....	90s 94s	
Essex Whites.....	—s —s	Do. whites.....	—s —s	
Wisbeach.....	70s 80s			
Chats.....	80s			

35s 55s.

BOROUGH AND SPITALFIELDS MARKETS.

WARE.	Per Ton.	MIDDLEINGS.	Per Ton.
£ s.	£ s.	£ s.	£ s.
Scotch reds.....	5 0 to 5 10	Scotch Redd.....	4 15 to 5 0
York kidneys.....	4 15 5 5	York Kidneys.....	4 0 4 10
Common reds.....	4 5 5 0	Common reds.....	3 15 4 5
Marsh Champ.....	4 5 4 15	Marsh Champ.....	3 15 4 5
London whites.....	3 10 4 5	London whites.....	3 5 3 1
Shaws.....	3 5 4 0	Shaws.....	2 15 3
Chats.....	45s to 55s		

WOOL MARKETS.

BRITISH.

APRIL 21.

The pressure for money being still severely felt, but little business has been doing, in British wools, during the past week. However, the quotations, though a

slight depression has been submitted to, in a few transactions, may be considered stationary. The trade in our provincial districts, continues, in a very dull state.

	APRIL 1.		MAY 1.	
	s. d.	s. d.	s. d.	s. d.
Down Togs.....	1 7½	1 8½	1 7	1 7½
Half-bred do.....	1 8	1 9½	1 7½	1 8½
Ewes and Wethers.....	1 5	1 6½	1 4	1 5
Leicester Hogs.....	1 4½	1 6	1 4½	1 5½
Do. Wethers.....	1 2	1 3	1 1	1 2½
Blanket Wool.....	0 8	1 2	0 7	1 0
Flannel.....	1 1	1 7	1 0	1 5
Skin Combing.....	1 2	1 1	1 1	1 3

EXETER.—So far from any thing like brightness being discoverable here, even to an extent still greater than before, the horizon is obscured with gloom, several of our manufactories being working only half time, and some scarcely even doing that. No further depression, however, has taken place in the price of yolk wool, which we are still enabled to continue to quote at from 10½d to 11d per lb. Washed wool also, is 14d; and Dorset horn, 15d per lb. In sorts, it can scarcely be said there is any thing doing, and furthermore, there is no disguising the fact, that for some descriptions, if sales could thereby be effected, a reduction from the terms we shall set down would beyond all doubt be submitted to. We quote then, Kent head, from 10½d to 11d; and red, green, and pinnions, 11½d; but the latter are almost unsaleable. Upon fell combing there has been a further, and not inconsiderable drop, this description not only having been sold for 12l the pack, or 12d per lb, but even some sales have been done at 11l the pack, or 11d per lb; our quotation, therefore, in this respect, is from 11d to 12d per lb. Fine head, is from 12½d to 13½d; stripes, as well North Devon as Cornish, 15d; and Tops, whether river or soap washed, 18½d to 19d per lb. In connexion with this article also, it should be mentioned, that foreign wools were offering in the market.

WAKEFIELD, THURSDAY.—The dulness noted in our late reports increases, and so great is the want of confidence in the trade, that we can report few if any sales in either long or short wools this week; in this state of things it is impossible to quote the value of wools, but it is evident that holders must submit to a further reduction when buyers again come to market.

LIVERPOOL.

WEEK ENDING APRIL 21.

Current prices of English wools per lb.—Down ewes and wethers, 16d to 17d; down tugs, 18d to 19d; combing fleece, 17d to 18d; combing skin, 14d to 16d; super skin, 15d to 17d; head skin, 14d to 15d.

SCOTCH WOOL.—We continue without alteration from last week. We are not aware of a single transaction in any of the qualities of Scotch wool. The account we receive from the Highland districts of the serious loss of sheep from the severity of the season, would in ordinary times have occasioned an impulse in the market, but hitherto they have produced no effect. Of course our quotations are nominal.

per stone of 24lbs.	s. d.	s. d.
Laid Highland Wool, from ..	12 6	13 0
White do. do.....	15 0	15 6
Laid Crossed do.	15 0	16 0
Washed do. do.....	16 0	17 0
Laid Cheviot, do.....	18 0	20 0
Washed do. do.....	24 0	26 0
White do. do.....	32 0	34 0
Import for the week	none bags.	
Previously this year	2513 do.	

Current prices of Irish wools, per lb.—Irish fleece, mixed lots, 15½d to 16d; Irish wethers, 15d to 15½d; Irish hogs, 16d to 17d; Irish combing skin, 12½d to 13½d; Irish short skin, 11d to 14d. Imports this week, 102 bags; previously this year, 1,127 bags.

There has been very little business transacted in any description of wool during the week which has now

terminated. The principal business has been confined to the inferior qualities of foreign wool. The imports of foreign wool amount to 787 bales. The import of Irish is 102 bags, the demand for which has been limited in the extreme.

Current prices per lb.—Russian wool, 7d to 8d; Odessa, fine, 1s 6d to 3s 0d; Buenos Ayres, 3d to 4d; Mogadore and Barbary, 4d to 5d; washed Peruvian, 11d to 12d; unwashed ditto, 8d to 9d; Portugal R., 1s 2d to 1s 4d; ditto, low marks, 10d to 11½d; German fleeces, 1s 9d to 2s; ditto assorted, 2s to 2s 3d; ditto lambs, 2s to 3s; Spanish R, 2s to 2s 3d; ditto F S, 1s 9d to 2s; New South Wales, 1s 9d to 2s 3d. Imports this week, 787 bales; previously this year, 553 bales.

SCOTCH.

Per Stone of 24 lbs.	APRIL 1.		MAY 1.	
	s. d.	s. d.	s. d.	s. d.
Laid Highland Wool, from.	13 0	13 6	12 6	13 0
White Do. Do.....	15 0	16 0	15 0	15 6
Laid Crossed Do.....	15 0	16 0	15 0	16 0
Washed Do. Do.....	16 0	17 0	16 0	17 0
Laid Cheviots.....	18 0	20 0	18 0	20 0
Washed Do.....	26 0	26 0	24 0	26 0
White Do.....	32 0	34 0	32 0	34 0

FOREIGN.

APRIL 24.

The arrivals, in the Port of London, in the course of the week, ending on Saturday last, consisted of 186 bales of German, 40 do. of Spanish, and 260 do. of Turkish, wools. The sale, of 1,342 bales of Peruvian, and 70 do. of Italian wools, was very thinly attended by buyers, and nearly the whole of the wool bought in. However, the few packages that were sold—which were of very inferior quality, produced, from 3d to 11d per lb. We have to notice, a very heavy sale, by private contract, at barely stationary prices.

Electoral Saxony wool, from 4s 2d to 5s 2d; first Austrian, Bohemian, and other German wools, 2s 8d to 4s; second do., 2s to 2s 6d; inferior do. in locks and pieces, 1s 6d to 2s; inferior lamb's do., 2s 4d to 3s; Hungarian sheep's do., 2s to 2s 6d; Leonesa sheep's do., 2s 6d to 3s 0d; Segovia do., 2s 2d to 3s; Soria do., 2s to 3s; Caceres do., 2s 2d to 3s; Spanish lamb's wool, 1s 6d to 2s 6d; German and Spanish cross do., 2s 2d to 3s 4d; Portugal sheep's do., 2s 4d to 3s 0d; do. lamb's do., 2s to 2s 8d; Australian, fine crossed do., 2s 4d to 3s 6d; do. native sheep's do., 1s 6d to 2s 8d; Van Diemen's Land native sheep's do., 1s 6d to 2s 6d; and Cape of Good Hope do. 1s 6d to 3s per lb.

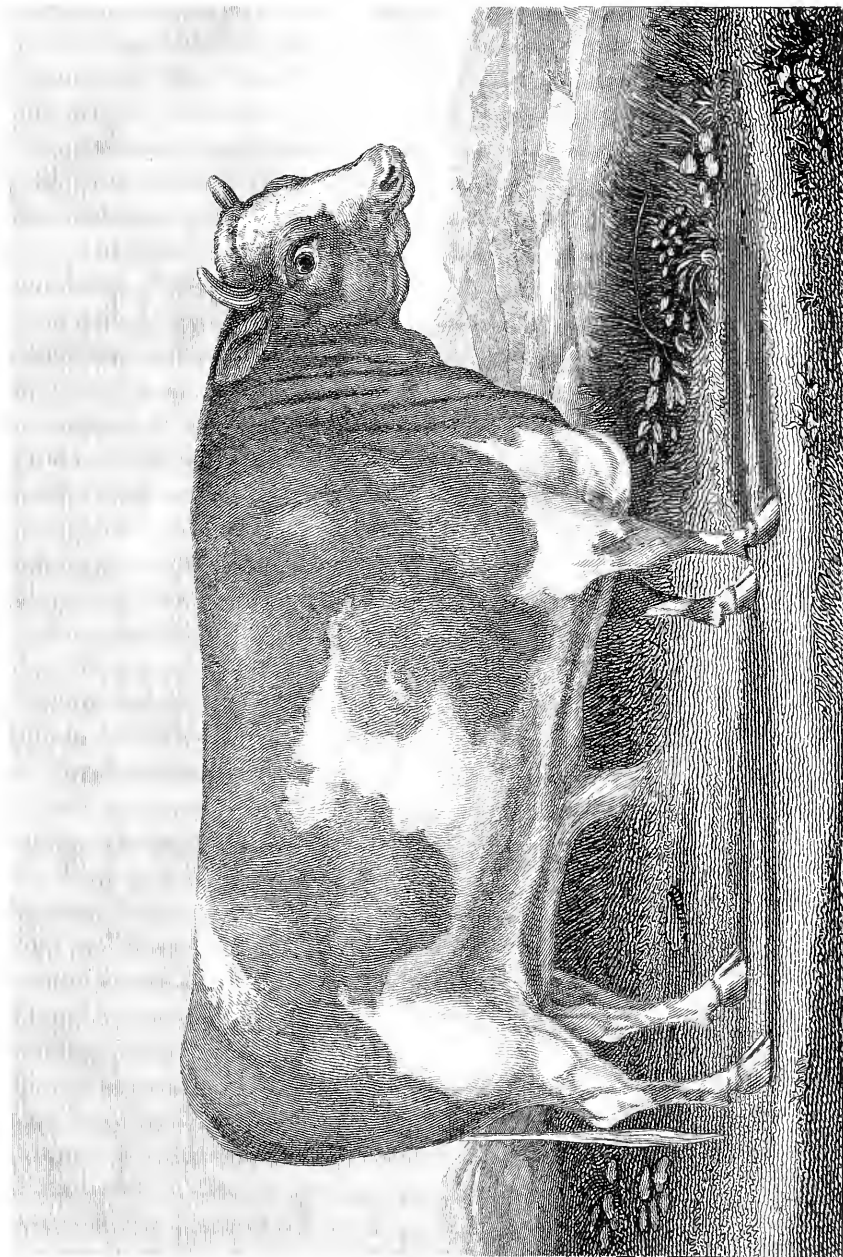
WOOL.

On which the Home Consumption Duties have been paid at London, Liverpool, Bristol, and Hull, during the last week.—

WOOL.	This Year, previous to last week.	Same time in the last Year.
Sheep, Spanish,	590640	897871
Bristol	—	7
Australian	121461	350161
Other Sorts	4107153	5675207
Hull	1991326	4115205

BONES.

Since our last there have passed the SOUND or ELSINORE, the GREAT BELT, and the HOLLSTEIN CANAL, ships loaded with Bones, bound for Bridlington, 1; Hull, 1; other parts of England, 1; Berwick, 1;—with patent mist for England, 2; for Scotland, 1.



AN AYRSHIRE BULL,
The Property of Sir John Macrae, Bart., Macrae's of Dalrymple, in the County of Ayr, Scotland. Taken at the Meeting of the Highland Society, at Glasgow, in 1830.
London, Published by J. Rogers, Junr. 1831.

THE FARMER'S MAGAZINE.

JUNE, 1837.

No. 6.]

[VOL. VI.

THE PLATE.

The subject of the Plate is an Ayrshire Bull, the property of Sir John Muir Mackenzie, of Delvine, N. B. The animal was six years and ten months old when exhibited at the meeting of the Highland Agricultural Society at Perth in October last, and obtained a Premium of Fifteen Sovereigns; as the "best bull of the Ayrshire breed." There were twenty competitors in this class. The honorary medal was also awarded to his owner, as the breeder of the best bull. For a description of the nature and properties of the Ayrshire breed of cattle, we refer our readers to a valuable article by Mr. Dickson, of Edinburgh, and which will be found in the fourth volume of *The Farmer's Magazine*, page 280.

POINTS IN CHEMISTRY APPLIED TO AGRICULTURE.—SOILS.

Those who undertake to investigate the relations of plants to soils, are embarrassed by peculiar difficulties. They are entering upon a field, the range and boundaries of which are unknown to them, because the confines are, as yet, unpassed: they are groping for deductions, from observations that are as variable and uncertain as the occurrences to which they relate, and which the framers of these remarks would have us to regard as regular and fixed. A store of facts, collected from every quarter of the world, has yet to be amassed. Here and there, doubtless, an incidental observation of considerable value is to be found in the records of our agriculturists and travellers, which is serving as a kernel, round which other fragments will be gathered; but much straggling information has still to be contributed, and much careful reasoning has yet to be expended upon it, and devoted to its arrangement, before these isolated occurrences can be connected and consolidated, so as to serve the important purposes which have been assigned to this species of knowledge, and meet the sanguine expectations which men of talent have, doubtless, been correct in forming regarding it. "In fact," says Mr. Macgillivray, "before any such results could be at-

tained, we should require for data, accurate and perspicuous accounts of all the different countries and climates of the world, viewed with reference to their soils and plants. But of such data do we yet possess even one? The botanist has gone forth by himself, and discovered the vegetation of an unknown region; the geologist has followed in his steps, but he has noted the rocks, and their mutual relations only. None has yet been able to look upon nature with an eye capable of seizing all her features. Humboldt may perhaps be said to have made the attempt, but many Humboldts must run their career before the complicated organization of mundane nature can begin to become intelligible."

Few things would appear, at first sight, easier to be judged of, than the value of a soil, as evidenced by the vegetation on its surface. A particular combination of earths might be supposed to be capable of producing only certain plants, and therefore the latter might be viewed as affording a pretty correct index to the composition of the former. Nothing, however, as will immediately be seen, can be more fallacious, as a test of the nature and qualities of a soil, than the herbage it gives rise to. Many plants certainly have each a particular soil, in which alone they appear fitted by structure and habit to attain perfection, and they either thrive or languish, ac-

according to the wholesome or hurtful nature of the ingredients which supply their wants; but there are several material circumstances to be taken into consideration, besides the chemical and mechanical constitution of the earths to which they adhere, before we can arrive at anything like conclusions as to the regularity with which particular compositions become the abode of certain species. "The number of plants," says Mr. A. Gorrie, "which may serve as a test for pointing out the peculiarities of soil, is comparatively small; many are found to prosper equally on different soils, and the means which nature employs to cover the surface of our globe with verdure, are so well adapted for accomplishing that purpose, that it affords matter of astonishment to find, in the vegetable creation, an approximation to locality in certain plants, which may enable us to assign to each its favourite nidus in cultivation, or to distinguish that nidus by their spontaneous growth." It is, therefore, not to be wondered that difficulties of no ordinary kind should be experienced in attempting to fix with certainty the circumstances under which a given plant may be expected to show itself on a particular soil, or that an almost insurmountable barrier should be presented to our progress in endeavouring to discover even a few plants, that will only grow upon one variety of ground. In the vegetable kingdom, we have evidence to prove that certain effects can only, in some instances, owe their occurrence to one, or, at most, two proximate causes—as, for example, where heath invariably indicates the existence of a peat, and where the common whin as regularly points either to a bed of clay, or to one of loam, on a gravelly subsoil; but instances of the kind are rare, compared with the frequency with which plants in general appear to be the result, indiscriminately, of many causes, and to be assigned to no particular soil. Thus, alders and willows seem indifferent as to what may be the mixture in which they fix their roots, provided that a copious supply of water be constantly afforded them, and hence they are found to denote rather the proximity of a lake or stream, than the presence of any one in particular of the usual constituents of a soil.

The limits of vegetables are never so abruptly defined, as to admit of their being spoken of with certainty. Nature does not distribute her productions with undeviating regularity, or with the rigid adherence to boundaries of a practised gardener. We never see one order of plants ranked side by side, over an extensive surface, with another of dissimilar character, yet kept entirely apart from the ground appropriated to its fellow. If soils possessed of peculiar ingredients afforded a hospitable bed for certain plants, but formed, at the same time, an unapproachable barrier to others, we might certainly expect to see their limits at least as well defined as those of the rocks of which these soils are formed; but as plants do not bear unexceptionable relations to particular soils, and flourish, in

many cases, on any of a vast variety of mixtures, without apparently evincing a preference, so it is impossible to tie them to a locality, or to assign a distinct limit, beyond which they will not prosper. "From what we know," says Mr. Macgillivray, at the commencement of his *Inferences*, "of the constitution of the world in general, and from what we have observed of Scotland in particular, we are led to infer, in the first place, that soil has little influence upon the nature of the vegetation,—this being determined chiefly by climate, and modified by various circumstances, having no connection with the nature of the soil; but that soil has a very considerable influence upon the quality of this vegetation, this influence depending more upon its degree of fixedness, tenacity, and capability of imbibing and retaining moisture, than upon its chemical properties." Chemical constitution, however, must exercise considerable power in determining the nature of the vegetation, as we have already informed the reader, when explaining the character and relations of *lumin*, that a soil depends very much for the continuance of its dampness on the quantity of decomposed vegetable and animal matters which it may contain. Those most retentive of moisture, at ordinary seasons, owing to the closeness of their texture, are yet speedily deprived of it on the accession of warm weather, unless they contain within themselves materials, from whose decomposition water can always be produced, and, therefore, such plants as afford a key to the quantity of fluid in a soil, may, with certain restrictions, be looked upon as offering a means of guessing at the nature of its constituents. In another part of his essay, Mr. Macgillivray thus expresses his opinion on this subject:—"The great mass of vegetation, or, as it may be called, the standard vegetation of the country, being diffused over every sort of soil, sandy, gravelly, gritty, clayey, or vegetable, no particular indications are afforded by it of the nature of the soil, unless with respect to its luxuriance, which yet depends upon other circumstances, more than upon the quality of the soil. * * * With respect to luxuriance, the matter is simply thus: Neither the chemical nor mechanical nature of the soil influences the development of plants further than as they contain the quantity of moisture favourable to particular species or genera; and it can only be by a very complex view of nature that one can attain a knowledge of the suitability of a soil for a particular species of vegetable."

"Some striking indications," continues Mr. Macgillivray, "nevertheless, present themselves to us in nature. Thus, if, while traversing an extended heath, we observe at a distance a spot covered with fresh verdure, we infer that the soil there is certainly not peat; and if, on approaching it, we see poae (*meadow grasses*), viciae (*vetches*), and other plants, usually found in rich pasture, we in-

fer that the soil is vegetable, and so of other soils. If, on the other hand, in a rich country, we see tracts, whether of hill or plain, covered with a brown vegetation which we know to be heath, we infer that the soil is peat. Still even among these general appearances, there are few that have direct reference to soil. Thus, on seeing a long line of trees which we know, by their physiognomy, to be alders or willows, we infer that a river flows beside them; but we can make no inference with respect to the soil. And thus, were it possible that we should be led blind-folded to a spot in which we should open our eyes upon a rivulet margined with bright green moss, among which *Saxifraga stellaris* (Starry saxifrage) *Alchemilla Alpina* (Alpine lady's mantle), *Silene acaulis* (Moss campion), appeared here and there, we might assuredly pronounce ourselves in an Alpine region; but what the peculiar soil of the spot might be, we would require to remove the turf to discover, and thus trust to the colour, texture, adhesion, and other qualities of the soil itself for a disclosure of its nature, rather than to anything growing upon its surface."

Little reliance can, at best, be placed on a mode of determining the nature of a soil which involves a consideration of so many elements, all calculated fully more than the soil itself to controul the vegetation on its surface. All that the most sanguine advocate for the possibility of determining the composition of the soil by the plants which it gives rise to can advance in its favour, may be shortly summoned up from the labours of Messrs. Macgillivray and Gorrie, and even the little that those gentlemen have, after much labour, managed to adduce in proof of its utility, tends to diminish the value of the method. As already shown by the extracts we have furnished from their essays, neither of them regard the criteria, which they have afforded as certain in their indications, and therefore look upon the opinions which they have given to the public, rather as incentives to a further examination of the subject, than as observations of occurrences that are undeviating in their course. Any part of their papers might be selected, in order to afford the reader a knowledge of the connection between certain plants and soils, as what has occurred once, may occur again, and what has fallen under their notice, may at some period or another come under the observation of others; but, as the extent to which the farmer may be warranted in making use of their deductions ought obviously to be determined by the points in which they coincide, we shall only select, in our analysis, those parts in which they have arrived at nearly parallel conclusions. Both Mr. Macgillivray and Mr. Gorrie have seen fit to class the soils to which they refer, under a greater number of heads than is usually thought advisable, and doubtless with a view of giving a precision to their remarks, which would not be otherwise obtainable; but the majority of readers

are averse to a prolixity of detail, which some would condemn as a piece of useless straw-splitting, and therefore we shall be content to build our remarks on the classification that we have already adopted in our primary division of soils. A tabular arrangement of the plant is employed by Mr. Gorrie, who is by that means enabled to give the maximum and minimum height, in feet, at which each plant is found above the level of the sea, so as to insure a degree of accuracy; but he is very far wrong in assigning so high an altitude to the lowest elevation of several of the plants. He justly observes that—"In ascertaining the elevation, anything like mathematical accuracy cannot be attained;" but he might have made a nearer approximation to the minimum altitude than he has done. He makes the lowest level of some of the plants as follows. The measurement is given in feet. Common whin, 40; wild mustard, 100; bladder campion, 100; common rest-harrow, 100; scarlet pimpernel, 100; eye-bright, 300; purple dead nettle, 200. Now, those who are in the habit of looking about them while in the fields, even without having had their attention much directed to botanical pursuits, will agree with us that all these come closer to the level of the sea than what is here stated, and that twenty feet, though still not low enough for most of them, would yet be a nearer approach to the mark. Forty feet is also given as the lowest elevation of "Shepherd's purse," a plant that is frequently found growing upon the shore. These remarks are certainly a slight departure from our subject, but worth attention, as they affect the general harmony of Mr. Gorrie's conclusions.

Clay is scarcely worthy of notice in an agricultural point of view, as it rarely exists in a state of purity at the surface, and even where it does occur tolerably free from mixture with other earths, is rather to be known by the peculiar scantiness, or entire absence of vegetation, than by any plants which can be shown to be indigenous to it. Mr. Macgillivray and Mr. Gorrie differ more in regard to the indications of clay, than they do in respect to those of any other soil,—the latter enumerating no less than twenty-three plants capable of affording an index to this earth; while the former contents himself with allusions to a few varieties of grasses. Both place some reliance on the indications afforded by common colt's foot (*Tussilago farfara*); but Mr. Macgillivray, though he admits that it may be depended upon when existing in great profusion by streams, (on whose banks surface-clay is most generally found, (qualifies the observation, by adding, in another part of his Essay "I know no plant peculiar to clay-soil; nor is even *Tussilago farfara*, for I have often seen it in its natural situation, by running water in every variety of soil excepting peat, although it is certainly more abundant in clayey, or rather in gravelly soil mixed with clay, than any other."

SAND, when loose and shifting, is devoid of vegetation: but when so situated as to remain for a length of time at rest, it slowly becomes impregnated with vegetable matter, and acquires, in ordinary circumstances, a luxuriant herbage. Along the west coast of Scotland, according to Mr. Macgillivray, this soil gives rise to some of our most valuable grasses and leguminous plants (plants resembling vetches), on the abundance of which pastures are always dependant for their riches; but in the east of Scotland, there is a decided inferiority in its productions, the whin appearing to choke up and supplant more useful vegetables. "On sandy and gravelly soils," according to Mr. Gorrie, "the broom, as a shrub, is found to preponderate, particularly above free-stone rock;" and "where the sand or gravel is of a calcareous nature, the whin acquires an establishment." In this district, sand, combined with gravel, is usually covered near pools of water, with species of the willow-tribe, and the yellow water-tris or corn-flag. The gravel mounds in the bendings of the Nith above Dumfries, furnishes examples of this combination. "Of the soils which occur in Scotland," says Mr. Macgillivray, "sand and peat are those which are the most distinctly characterized by the plants that grow upon them;" and yet the plants which he speaks of as in a manner peculiar to sand,—sea-bent, hollow bed-straw, and common yarrow,—are not so much as alluded to by Mr. Gorrie. Broom, in fact, is the only plant agreed upon by both, and therefore is the only one that can be looked upon as affording satisfactory indications; but it is, unfortunately, not peculiar to sandy soil, being also placed by Mr. Gorrie at the head of his list of those which grow upon light black loam on an open sub-soil.

PEAT is, in reality, the only soil that carries plants peculiar to itself,—its presence being invariably indicated by common ling, fine-leaved heath, and cross-leaved heath; and, though not absolutely essential to the growth of cotton grasses, a proportion of it may be looked for in soils on which they are found.

LOAM.—"On taking a general view of vegetable soil," says Mr. Macgillivray, "one would be apt to infer that it assuredly possesses a multitude of plants peculiar to itself. * * * But, on more minute examination, we find that many, or most of these are rather plants of peculiar situations, than plants of vegetable soil, growing in certain places or stations, whatever the soil of those places may be. And, in reality, I do not find a single species that I could name as peculiar to this soil." Both Mr. Macgillivray and Mr. Gorrie bring forward a long catalogue of plants which are found on this soil; and yet *Artemisia vulgaris* (mugwort) is the only one that they unite in naming!

The fact is, there is a poverty of information on matters of the kind, which must for a time prevent the drawing of conclusions otherwise than unfavourable to this method of ar-

iving at a knowledge of the main ingredients of a soil. At best, too, the plan promises to be but a rough one, and likely rather to be wilder than to put those anxious to gain an inkling of the chemical constitution of the ground on the road to obtain it. The farmer is certainly not usually desirous of making a very nice or searching examination, nor is it in general required; but when a soil is suspected, from a failure in the quantity or quality of the crop, to be wanting in something which is essential to the production of a vigorous plant, it becomes a matter of importance to ascertain even by a coarse analysis, the nature and extent of the deficiency. When such is the case, a better mode of procedure than that just detailed, will be to test the soil by a series of mechanical and chemical trials, and having thus found the general nature of its contents, to compare the result with some soil of acknowledged excellence, so as to determine by the contrast the particular ingredients which it wants.

Lengthy processes for the analysis of soils, are described by chemists, with the view of facilitating their acquisition; but the simplest of them require, in their performance, apparatus which few can procure, and a degree of consent between the head and hands that does not fall to the lot of twenty in the hundred. Fortunately, however, these tedious manipulations can be dispensed with in the ordinary run of cases, where the exact quantity in which a particular earth or salt exists in the matter to be tested is not required, all that is necessary to be known being merely—"is this or that ingredient present, or is it absent?" and where, accordingly, a process, as devoid of prolixity as the information sought for is better suited to the purpose, and much more likely to be put in practice. On obtaining, then, a sample of earth, the contents of which we wish to estimate, we may wake our inquiries in the following manner:—

Has it an earthy smell when breathed upon; or, having adhesive properties, does it retain for any time the form into which we knead or press it? Then it contains clay.

Does it scratch glass when rubbed upon it? Then it contains sand.

Does it effervesce,—that is to say, are bubbles of air extricated from it, when a few drops of vinegar are poured upon it? Then it contains chalk.

Does it, when exposed to heat in small quantity in a shovel or tobacco pipe, exhale an odour similar to that of burnt feathers, or does it catch fire and burn with a pale feeble flame? Then it contains animal and vegetable matters.

Two or three trials with different earths will soon enable the experimenter to obtain, even by this rough method, a tolerable idea of the proportion in which each ingredient exists, and by then comparing the indications he has obtained with the results which professed chemists have arrived at, from the analysis of soils of known fertility, he can form a good

notion of the value of his ground, and be in the fair way of remedying its defects. Take for guides the following:—

An excellent wheat soil, from the neighbourhood of West Drayton, Middlesex, gave, (according to Sir H. Davy, 2d edit., p 176),—

Alumina, (clay,) - - -	29
Silicious sand, - - -	32
Carbonate of lime, (chalk,) -	28
Animal and vegetable matter -	11

A good turnip soil, from Holkham, Norfolk, afforded, when examined by the same chemist, (2d edit., p. 175)—

Alumina, (clay,) - - -	11
Silicious sand, - - -	15
Carbonate of lime, (chalk,) -	63
Vegetable and saline matter, -	3

The fertility of a great many soils of known qualities, subjected to analysis by Thaer, of Berlin, was always in proportion to the quantity of clay, chalk, and humin (vegetable and animal matter,) which they contained; and therefore, according to the coherence when pressed, the effervescence when tested with vinegar, and the odour when burned, will be the value of any soil we may undertake to analyse. This is the sum and substance of the business, and all, in fact, that is applicable under ordinary circumstances. Minute directions for the furtherance of the object might be given, and in a few instances would doubtless prove of service; but the number of cases in which they could be brought to bear upon the subject, would be few indeed, compared with those in which they would serve only to perplex. The benefits that might be derived from the union of chemical *skill* with the observation of agricultural facts, are perhaps incalculable; but how seldom do we find individuals capable from early training of reaping advantage from chemical experiments. That the present hints may aid in directing the attention of the rising agricultural population to the utility of chemistry, as applied to agriculture, is the wish of

FRANK SYLVAN.

STEAM PLOUGH.—Our readers have heard of the steam plough which has been performing such marvels among the mosses at Bolton. Well, the said machine has been inspected by a committee of the Highland Society of Scotland, accompanied by an engineer, and as their report is exceedingly favourable, it is not improbable that it will be exhibited here at the great meeting which takes place in October next. But if you plough by steam, what, it will be said, is to become of the ploughmen?—Goldsmith's

“Bold peasantry, their country's pride,
When once destroyed, can never be supplied.”

But the change from animal to steam-power, happen when it may, will be extremely gradual, even were we to suppose, which we are far from doing, that the invention is alike practicable in all situations. Locomotive engines, which succeed so well on railways, seem to be of little value on common roads, and, wonderful as is the progress of the mechanic art, the period must still be distant, should it ever arrive, when a power which stops not, nor readily turns aside, can, by possibility exert the same supremacy over precipitous or stony heights, that it has done, and still is doing, over improvable moss, and other descriptions of land of the same level.—*Dumfries Courier.*

LEASES.

Those who become tenants of poor land, out of condition, consequently needing capital being expended on it, would be unwise if they did not require a lease: for although they might have full confidence in their landlord, yet as life is uncertain, tenants ought, under any change of the ownership of the land, to be secured reaping the benefit arising from their expenditure of capital. But of farms of good land, in good condition, and therefore only wanting the common expenses of cultivation, tenants cannot reasonably expect to have leases. Those entered into a great many years ago, proved very advantageous to the tenants; those entered into about twenty years ago mostly proved ruinous to them. Leases now entered into, according to my proposition, with a variable amount of rent, regulated by the price of wheat, could not prove injurious to either landlord or tenant, were the term either long or short. Were leases entered into on the terms I propose, it probably would not be an uncommon occurrence to bear, as I heard a tenant who had recently entered on a large farm of poor land, say to his landlord, Mr. Coke, “My best bank, Sir, for the capital I possess, is my farm, a part of your estate.”

Some years ago, a great portion of the stewards of landed proprietors were composed of the lawyers, land-surveyors, and others, who knew little or nothing of the real quality of land, or the proper cultivation of it. All the object in view of such stewards was to increase the rental of their employers, on which increase it was then a common practice for them to receive a commission; so that industrious tenants under their controul, whose farms appeared neat, were liable to have their rents raised; and the crafty or negligent, whose farms appeared unsightly, theirs not raised, but perhaps lowered, which is exactly the reverse of what just stewards between landlords and tenants, ought at all times to do.

My proposition for a commutation of tithes was in the same mode as in estimating rents, by the value of a determinate number of bushels of wheat, and I still think that a fairer plan could not have been adopted; every farm in the parish being valued according to the quality of the land, and not according to its state of cultivation. Nor were the valuers to be influenced by any amount that might have been paid as compensation. Not to disturb any existing agreement, but an estimate to be given to the landowner and tithe-owner of the value to be paid for commutation, when such agreement ceases; the amount fluctuating with the average price of wheat. With this plan of commutation, it would not have been necessary to have a permanent Board of Commissioners.

It has often been asserted in the House of Commons, and elsewhere, that permanent low prices of corn would not affect the farmers—that landlords only would be affected by it, for they must lower their rents. This I trust I shall be able to prove, by the following statement, to be a most mistaken notion.

A summary calculation of the value of the produce of Farms, of different descriptions of land, with Wheat at seven, six, and five shillings per bushel; the prices of other grain in proportion; the profit arising from Cattle, Sheep, Pigs, and Poultry; the amount of Rents and Expenses; and the Occupiers' Incomes. Also supposing that each farm was titheable, the amount to be paid per acre and per annum according to my mode of estimating the value of Tithes, which proves to be, on arable land, about one-fifth of the amount of a fair rent. As I believe that my way of

estimating the value of tithes brings them to a rather less amount than they justly ought to be, I think five per cent. might be added to my estimation on good arable land.

200 200 200 200 200 200 200 200 200 200	Same farm	Arable.	Pasture.	Quality.	Wheat at 7s. per bushel.		Wheat at 6s. per bushel.		Wheat at 5s. per bushel.		Occupier's loss of income, with reduction of rent, wheat being reduced from 7s. to 5s. per bush.	If the farms were titheable, and wheat 6s. per bushel, the tithe would be	
					Rent per acre.	Whole Rent.	Rent per Acre.	Amount of Rent.	Rent per acre.	Amount of rent.			Occupier's Income.
200	150	50		Poor Clay	s. d. £ s.	£	£	s. d. £ s.	£	£	£	s. d. £ s.	£
200	150	10		Poor Sand	14 0 14 0	703 450	0 113	9 4 93 7	612 407	0 111	4 8 46 13 515	0 365 100	2 1 21 5
200	180	10		Clay	15 0 15 7 10	756 415	0 183	10 0 105 0	654 382	0 167	5 0 52 10 552 10	0 355 145	2 4 24 10
200	180	20		Sand	25 0 25 0	858 470	0 135	18 9 187 10	748 428 10	0 133	12 6 125 0 629 10	0 395 109	4 0 40 0
200	180	20		Good Clay	25 0 25 0	1006 530	0 226	18 9 187 10	877 487 10	0 202	12 2 125 0 748 0	0 451 170	4 0 40 0
200	160	40		Good Tur-rip land	31 6 31 5	1079 520	0 244	27 0 270 0	943 480 0	0 193	22 6 225 0 800 0	0 445 170	4 11 49 4
200	180	20		Good Tur-rip land	35 0 35 0	1102 525	0 227	30 0 300 0	962 483 0	0 181	25 0 250 0 810 0	0 440 180	5 9 57 10
200	Same farm			(4-course system)	35 0 35 0	1193 545	0 298	30 0 300 0	1037 502 0	0 235	25 0 250 0 871 0	0 465 186	5 9 57 10
200	180	20		Superior turnip land	42 0 42 0	1309 555	0 334	36 0 360 0	1138 512 0	0 266	30 0 300 0 967 0	0 478 190	6 10 68 15
200	100	100		Both good } turnip land }				39 0 390 0	980 290 0	0 300			6 4 63 7
200	100	100		Good quality.				40 0 400 0	900 200 0	0 300			5 0 50 0

to market, or cart-horses the value of such corn or meat must be considered as part of their incomes; which, according to my calculations, will be, on poor clay farms (with my lowest valuation of produce) not more than sufficient to feed, and plainly clothe, their families, or to give their children any thing beyond the most homely education. The occupiers of good turnip, or good grazing land, need not despair of getting, with industry and good management, and good judgment of stock, a comfortable maintenance; for the demand for corn and meat (both of which they can produce at less expense than the occupiers of poor land), must increase with our increasing population. If a farmer were to ask his sons what line of life they would like best, the chance is, even if there were half a dozen, or more, that they would all answer, farming. It is, however, the duty of the fathers to be satisfied in their minds that their sons are likely to turn out steady and industrious, before they consent to their being brought up in that line, for to those who do not turn out so, there is, in the life of a farmer, too many temptations to pleasure. Farmers should also consider what prospect they have of getting farms for their sons, before they bring them up as farmers.

Rail-roads will certainly cause a change in the value of land in different parts of the kingdom. The gross value of the land, five miles round London, will, I conceive, be lessened, and the land, fifteen or twenty miles from it, that lies near a rail-road, increased in value, not only from the facility of getting its produce to market, but for its convenience of residence for persons who have daily business to transact in London. Good feeding grass land, from forty to sixty miles from London, has hitherto been of much greater value than the same description of land, a hundred and twenty miles from it: but if the sheep and cattle fed on it can be conveyed there at the small expense it is said they will be, the distant land will be increased in value, and consequently the nearer, somewhat lessened.

The produce of a poor clay arable land farm, and the profit of the stock kept upon it, ought to amount to seven rents, as thus:—one for the landlord; four and a quarter, expenses; and one and three quarters for the tenant's maintenance. On a poor sand farm, where the expenses are less, six and a quarter will do. On fair clay land, four and a quarter: one, landlord; two and a quarter, expenses; one, tenant. On good turnip land, three and a half; one, landlord; one and three quarters, expenses; three quarters, tenant. Superior grazing land, two and a quarter: one, landlord; half, expenses; three quarters, tenant. There is a difference of opinion as to the size that farms ought to be: most, who consider the question as it regards the public interest, are against large farms; believing that there is not a proportionally equal number of labourers kept on large farms as there is on moderate-sized ones; besides which, it is argued that two farmers' families might be maintained where there is only one. Perhaps there are not, on the generality of farms of five hundred acres, double the number of labourers employed as there are on farms of two hundred and fifty acres. It is certainly in the power of a good farmer to well manage, at less expense per acre, two hundred and fifty acres of good arable land, than he could one hundred and fifty acres, of the same quality. As the question regards landlords and tenants, the size of farms must depend on the nature of the soils, the parts of the country in which the farms are situated, and the competency of the tenants; for landlords cannot be expected to let large farms to tenants with small capital. When wheat,

In the above statement, the whole amount of value of the produce of each farm is calculated; therefore, if the occupiers consume in their families, corn or meat, or corn by any other horses, than one to ride

the chief dependence of clay land farmers to pay their rents, was selling at eight-and-thirty shillings per quarter, as it had been for a considerable time previous to about the middle of February, 1836, such farmers were then in a truly distressed state: but not so the turnip-land farmers, for barley, oats, mutton, and wool, were then selling at fair prices.—*Hillyard's Practical Farming.*

THE IMPROVEMENT OF HEATH.

Is it not unpleasant to see an easy-lying sheep-walk totally neglected, and overrun with a dense, dark, *useless heath*, and the name of the neglected hill is, perhaps, that from which the family derive their hereditary honours? It is the mismanagement or rather total neglect of those spontaneous productions which remote and elevate regions yield. Though the soil itself cannot be altered, so as to give existence to more succulent herbage, yet, the productions themselves may be so reclaimed as to render them more nutritious, more mild, and grateful to the pasturing stock. All distant and Alpine productions are apt to be disregarded, but heath is certainly most neglected. At no great distance of time, this will engage the attention of both landlord and tenant, and when their exertions have been successful, they will be astonished at the indolence of former generations who allowed their extensive sheep-walks to be under the dominion of a withered, worthless, unprofitable heath, and it susceptible of such easy improvement.

The Celtic tribes had a method of preparing an intoxicating drink from a decoction of heath. This, mixed with wild honey, was their common drink at their feasts; and upon account of the cheerfulness it imparted to their spirits, Ossian calls it, "the joy of the shell."

Sheep, who are natives of a heathy pasture, are in no danger of feeding to excess; they only satisfy, but do not overburden nature, and though the animal is here smaller in the bone, and the viscera much less, the constitution is sound and hardy, and is in no danger of those maladies which arise from repletion.

Grouse have their residence only where heath prevails. It is a hardy fowl, well known to the sportsman, and is often seen feeding on the young sprigs of heath in the shock of the tempest and amid the darkest night.

Again, when the blossoms of trees and plants are faded, or have given place to the fruit, the heath offers inexhaustible stores of honey to the wild and domestic bee, and in this liquid, extracted by these diligent purveyors, resides that spirit which inspired the Celtic bards to sing of the deeds of other times then long gone by.

To the heaths, also, sundry other species of migratory birds resort through the summer months, for hatching and rearing their tender young. Here, in these solitudes, far from the disturbance of man, they enjoy, unmolested, those compassionate feelings which every creature fondly cherishes, as it contributes to the wants of its helpless offspring.

Heath is a plant which shoots wild and free, and any alteration of the soil on which it stands, or in the structure of the plant itself, dwarfs its size, and directly checks its growth; yet it has this peculiarity, that, if the roots be left untouched, it will by no means relinquish the soil, if, previous to the destruction of the plant, they have been in a living state; and, destroy the old heath by what method you will, if the roots have been undisturbed, a succulent crop of young heath will immediately cover the ground; and to accomplish this necessary purpose, burning is the easiest, the most effectual, and the most expen-

ditious. The young shoots, after proper burning, protrude from the old stock, forming a fine sward of young heath, and by the branches of different roots intersecting each other, meets at the top, covering over all the ground. *This is juicy and sweet*, and is eaten greedily by sheep about the month of September, and this burning has, as yet, been gone about in a random manner, often altogether neglected. But the husbandman doth not prove his arable land by a certain rotation of crops with greater exactness than a heathy pasture should be regularly laid out in heaths of different ages, the oldest spaces *annually renewed* by burning, when the next in seniority are in their last year. By this means, this shrub is kept eatable through all the season, and even when other herbage is scarce in the spring months, a browse on young heath is far from being unacceptable. How can it be of service when it is allowed to stand till it is useless? When old, it doth not vegetate till about the middle of June; but when young, its spring is little later than the softer grasses. In the firmer state, there is scarcely a return of verdure through all the season. When young it shoots more than an inch for several seasons, and at all times its germs are eagerly sought for, and eaten by the depasturing stock.

MANURE OF FARMS.—Not any thing connected with agriculture is so material to production as the *economy of manure*: and in proportion to the quantity and quality of this necessary article, are the returns obtained from the lands in all situations. The present system, generally practised (if it can be so termed), has been much censured by scientific and practical men of experience and known abilities; and the most able chemist (Sir Humphrey Davy) of our day has gone so far as to estimate the loss of the stimulating properties in dung, by the present process, *at from one-half to one-third of what manure should possess when put into the land.* This art is almost coeval with man—is practised in every situation—and in all countries where the inhabitants are numerous it is not only the most important, but indispensably necessary for their subsistence; and yet, even in Britain, so far as is known, it is the only process that is conducted in opposition to scientific principles, notwithstanding that other branches of husbandry are prosecuted, perhaps, with more skill than elsewhere in any instance. Draining must, necessarily, have been practised at a very early period, but the immense utility of this was not generally known, nor was it extensively adopted with effect until within the last twenty years.

Every reflecting and intelligent individual must admit the waste occasioned by the *mixture and escape of dung with rain water*; but were the farmer told that there is more virtue in what is lost in this manner than in all the straw that can be used, *he would not credit the fact.* The evil in this case is sufficiently apparent to induce occasional attempts to collect these wastings from the dung heap, and to apply them separately to the lands; but the only means to avert and strike at the root of the evil, is *to exclude air and excess of moisture.* Thus, the whole are acted upon by every degree of variation in the weather, at every stage, and "can it be imagined that these changes take place without the induction of some and the escape of other volatile principles, or is this irregularity of action consistent with any other systematic process?"

It might be found more convenient to separate the urine from the dung and litter, and to allow it to pass from the stock to a recess under cover, where it may be mixed with moss or mould.

Dymercion.

AN UPLAND FARMER.

EXPERIMENTS ON FEEDING.

(FROM THE QUARTERLY JOURNAL OF AGRICULTURE.)

Some of the most instructive experiments upon the feeding of farm-stock with different materials, were made by an intelligent foreign agriculturist, M. Mathieu de Dombasles, and published in a work little known in this country, the *Annales de Roville*. The experiments usually made on this subject have been conducted upon the principle of continuing one species of food, such as hay or carrots, for a given time; but M. de Dombasles reflecting that it is neither natural nor agreeable to any animal to be confined for a length of time to the same species of food, adopted a different method. He separated into several groups the cattle on which he designed to experiment, and brought those in each group as nearly as possible to a given weight, by feeding them with an exactly weighed proportion of common articles of food, diversified to suit their taste. When he had proceeded so far, he then began to take away from their diversified food a known portion of one of them, such as lucerne hay (*luzerne sèche*), replacing it by some sort of root, such as carrots, gradually increased or diminished, so that each individual in the group came up to and sustained the weight it had stood at before the change. The comparison of the quantities thus ascertained by trial to be equivalent, gave the practical proportions of their nutritive properties, under the conditions thus associated.

The results thus obtained by M. de Dombasles by trials with sheep, appeared to place carrots very far below the rank usually assigned to them as food for sheep by farmers on the Continent, and even as food for horses when substituted for grain. But it is important to remark, that M. de Dombasles gave the carrots in a raw state to his sheep, and consequently from their stomachs being unable in the process of digestion to cause the globules in the carrot containing the dextrine to burst, they derived little nutriment from a substance which is undoubtedly very nutritive when the dextrine is developed by boiling. The intelligent farmers in Belgium, who seem to be almost a century before other parts of Europe in improvement, never, it is said, give any roots to their live-stock without boiling.

The digestion of food is in all animals partly a chemical and partly a mechanical process, and varies much in different animals, even when they feed on similar aliment; for example, the rabbit, the horse, and the game-cock, when fed upon oats or barley. The horse, and even the rabbit, when fed on oats, swallow many grains without crushing them with their teeth, and their stomachs not being endowed with the power of digesting solid uncrushed grain, it is voided whole, and so little changed as frequently to be capable of germinating. In the case of the game-cock, again, and all gallinaceous fowls which feed on grain, it is uniformly swallowed whole, their bills not being adapted for bruising it like the teeth of the horse, nor for shelling it like the linnet and sparrows. But the gizzard of these fowls has not only sufficient power to crush oats and barley, but even, as Spallanzani proved, to reduce glass to powder; yet, with all this power, so very much greater than the digestive powers of the horse, poultry cannot, as will be immediately proved, completely extract the dextrine from grain, unless assisted to do so by artificial means, besides their powers of digestion. The celebrated M. Reaumur undertook a

series of experiments on raw and on boiled grain in feeding, which, though made long before the discovery of dextrine, strongly corroborate the views of MM. Raspail and Biot, the more so, indeed, from M. Reaumur's non-acquaintance with the principle.

The farmers in France who keep poultry, have long been in the habit of cooking the grain given to fowls which they intend to fatten, boiling it in water till it is soft enough to be easily bruised between the fingers, the heat causing it to swell till the mealy portion of the grain splits the chaffy envelope, and this they term bursting. It is therefore the popular opinion, that boiled grain is more nutritive and fattening than raw grain, an opinion founded, however, upon vague notions, which M. Reaumur endeavoured to base upon precise calculation.

BOILING OF GRAIN.—For this purpose M. Reaumur caused about four measures (each $1\frac{1}{2}$ pint English, or $\frac{3}{4}$ ths. of a chopin Scotch) of each of the six common sorts of grain, to be boiled till they were well burst, (which may be fairly taken to mean that two-thirds of the dextrine was set free), and he found that the increase of bulk in each sort was as under:—

Four measures of oats, after being boiled to bursting, filled	7 measures,
Four measures of barley, after being boiled to bursting, filled	10
Four measures of buckwheat or bran, after being boiled to bursting, filled	14
Four measures of maize, after being boiled to bursting, filled above	13
Four measures of wheat, after being boiled to bursting, filled little more than	10
Four measures of rye, after being boiled to bursting, filled nearly	15

Rice swells considerably more than any of the preceding, but was not measured.

In order to ascertain whether the boiling altered the preference of poultry for any of the particular sorts, M. Reaumur made experiments, varied in every possible way. The fowls were furnished with two, three, four, five, and six different sorts, sometimes all the compartments of a feeding-box being filled with burst grain, each division different from another, and sometimes each sort of grain filled two of the divisions, one having nothing but boiled, and another nothing but dry, unboiled grain.

All that could be inferred from these repeated experiments was, that the greater number of fowls prefer boiled to raw grain, though there are many of them which show a preference to the raw grain on certain days, and no permanency could be discovered in the preference shown for any sort of burst grain. Some fowls, for instance, which one day preferred boiled wheat, would, on other days, make choice of buckwheat or maize, oats or barley, and sometimes, though more seldom, even of rye; but rye, either boiled or raw, is their least favourite sort of grain.

It follows, as an important practical conclusion from such experiments, that we may make choice of the sort of grain which happens to be cheapest to feed poultry, without much if any disadvantage, always excepting rye, when other sorts are to be had on reasonable terms.

It required experiments of a different kind to prove whether there is any economy or the contrary in feeding poultry with boiled grain, and this was readily ascertained by finding first how

much dry grain sufficed one or more fowls, and then boiling the same quantity, and trying how much of that would in like manner be sufficient. The experiments which, for this purpose, M. Reaumur made with the different sorts of grain were as follows:—

RYE.—Although, as we have seen, rye is very considerably increased in bulk by boiling, so far from being more sufficing, it becomes less so; for fowls will eat rather more of it when it is boiled than when it is raw and dry. Seven hens and a cock, which consumed only three-fourths of a measure of dry rye in one day, ate in the same time three measures of the boiled grain. Consequently, as three measures of boiled rye are equivalent to four-fifths of dry, it would cost one-twentieth more to feed fowls with boiled than with dry rye, four-fifths being one-twentieth more than three-fourths. The globules of rye are almost the same size, according to M. Raspail, with the globules of wheat.

OATS.—It appears, that although oats are increased by boiling nearly one-half, they are not, any more than rye, rendered more sufficing as food; for the fowls, which, in two days, would have eaten four measures of dry oats, consumed in the same time several measures of the boiled grain. Consequently, so far as fowls are concerned, it is no saving to boil oats; though this does not prove that the same holds with regard to horses whose powers of digestion are so inferior to those of fowls.

BUCKWHEAT OR BRANK.—This grain is increased by boiling still more than oats, since four measures when well boiled, swell to fourteen. Notwithstanding, there is little advantage obtained by boiling it for fowls, as they will consume the fourteen measures of the boiled grain nearly in the same time which the four measures of the dry grain would have sufficed them.

MAIZE OR INDIAN CORN.—This grain is more profitable as food for poultry when boiled than when raw; for the fowls, which would have eaten a measure and a quarter of dry maize, consumed only three measures of the boiled grain, and these three are not equivalent to one measure of dry maize. But it is worth remarking, that the fowls experimented upon continued only for two days able to get through three measures a-day of the boiled maize. After this time, they either lost their appetite or came to dislike the food, since they could not then eat quite two measures of the boiled grain. Now, calculating that they had continued to eat even as much as three measures of boiled maize a-day, there would be a saving of more than one-fifth; and if they were satisfied with two measures, the advantage would be much more considerable, inasmuch as this would not be equivalent to two-thirds of a measure of the dry grain. The saving in this case would be one-third and one-fifth, that is eight-fifteenths or more than one-half.

BARLEY.—This grain also was found, upon trial, to be much more economical when given to poultry boiled than raw. Fowls, which would have consumed two measures of the dry barley a day, got through only three measures daily of the boiled grain. Now, as ten measures of boiled barley are produced from four measures of dry, three measures are, therefore, equivalent to no more than six-fifths of a measure of dry. The expense, consequently, in dry barley is to that of boiled as ten-fifths to six-fifths, that is, as ten to six or as five to three, showing a saving of two-

fifths by feeding poultry with boiled instead of dry barley. This result is, no doubt, owing to the more effectual bursting of the grains of fecula, and setting free the dextrine contained in them.

WHEAT.—The results of the experiments on boiling grain given above, shew that wheat increases in bulk about the same as barley; but the experiments made on feeding poultry were considerably different in their results, the saving not being near so much with boiled wheat as with boiled barley; for the same fowls which consumed three measures of boiled barley in one day ate three measures of boiled wheat. Now, three measures of boiled wheat are not equivalent to two measures of dry wheat, but only to a measure and a half of dry wheat, the quantity consumed in one day by the same fowls. But as a measure of boiled wheat is equivalent to no more than two-fifths of the measure of the dry grain, the three measures eaten in one day are equivalent only to six-fifths of dry wheat, and therefore the proportion of what they consumed of dry wheat, was to what they consumed of the boiled as fifteen-tenths to twelve-tenths, or as five to four; hence there is a saving of one-fifth by feeding with boiled wheat, as there is of two-fifths with boiled barley.

It is clearly proved, then, by these interesting experiments, that there is in most cases a considerable saving by feeding with boiled grain. It would be well if some intelligent gentleman would undertake similar experiments on feeding horses and cattle with boiled or steamed grain or meal. The advantage of feeding with crushed grain instead of given it unbroken has been very satisfactorily proved and acted upon by Captain Cheyne (*Quarterly Journal of Agriculture*, iii. 1024, and iv. 378), and recommended by Mr. Dick and others. The steaming of potatoes is well known to be advantageous in feeding both horses and cows,* and more particularly in causing hens to lay, and in fattening pigs. Why should not the various sorts of grain, such as peas and beans, and meal, such as barley meal, given for similar purposes, not be advantageously increased in their nutritive properties by the same means? The expense of fuel, though it ought to be taken into account, must be small in comparison with the advantage, at least in districts where coal or other fuel is reasonable in price. In large concerns, also, the expense of fuel would of course be proportionally less when compared with the saving in food.

BREAD-MAKING.—The most complete method hitherto discovered for bursting all the globules of fecula, is the usual process of making bread, or, as chemists term it, *panification*. This arises from the presence in wheat flour of a substance termed gluten, associated with the globules of fecula, and constituting in the unbroken grain its cellular texture or frame work. It would lead us too far from our present object to go into the history of this important substance minutely, but it may be necessary to state, that the gluten may be procured by kneading and washing a piece of dough, made with wheat flour, in a stream of water, till all the globules of fecula are washed out. The gluten thus obtained is a greyish mass, elastic, like Indian

* According to the experiments fully related in the 10th and 11th volume, pages 253 and 52, of the Transactions of the Highland Society, it would appear that cattle thrive as well on raw turnips and potatoes as on prepared, and yield more profit. The point has not yet been sufficiently experimented on. But we have no doubt that boiled corn would fatten cattle better than raw.—**ERROR.**

rubber, when moist, and incapable of being dissolved in water. It is these two properties which render it so important in bread making.

When a loaf is put into the hot oven, the steam and gases expand within it, and raise up the elastic gluten into bladder like vesicles; and by this means expose the globules of fecula in the dough more uniformly to the heat than could be effected without such agency. In consequence of this they burst; and in a well-baked loaf of bread not a single unburst globule of fecula can be found. On the continent this is practically understood in the districts where they feed their horses chiefly on bread, as in most parts of Belgium, Prussia, and Switzerland. The bread thus given to horses is coarse, dark-coloured, and rather sour, from leaven being employed instead of yeast; but the partial fermentation caused by the leaven must assist in bursting the globules and setting free the dextrine from the action of the acid thus developed.

According to M. Raspail, and the fact has been stated by others, the more of other fecula we mix with good wheat flour, containing its due proportion of gluten, the less increase of weight does the bread acquire. For example, six pounds of flour will produce eight pounds of bread; but if three pounds of potatoe-starch be mixed with three pounds of wheat-flour, instead of eight pounds of bread there will only be six pounds. He explains the circumstance from the globules of fecula while unbroken, not imbibing water, but being only moistened by its adhering to them; while the gluten sucks in water like a sponge, and the more it is kneaded, the more water it will take up. The mixture, therefore, of other flour with that of wheat diminishes not only the weight but the nutritive materials in the bread.

REMINISCENCES OF AN IRISH FARMER.

[FROM A CORRESPONDENT.]

The year 1799 was a remarkable one in our family; my poor father, peace to his honoured manes, had been, with many upright but simple men, seduced to take an active part in the troubles of the preceding year; but after the route at Ballynahinch, he turned over, once and for aye, a new leaf in his political creed, and if at any time he reverted to the subject, he always classed the confraternity with whom he had previously cast his lot, under three denominations—"The rascally republican head-plotters, who saved themselves by keeping aloof, or by an early emigration to the dear land of the 'Sans Culottes';"—"the dupes," amongst whom he reckoned himself, "who fought for a camera-obscura phantom, tricked out by the former in gaudy colours, and paraded as a beautiful reality." He had, to use a mercantile phrase, speculated too largely in a falling concern, and found himself in the spring of 1799, safe indeed in person, and in the midst of his rising family, but with his farm curtailed by half, his stock gone, and, superadded to reduced means, a subdued spirit. He had contrived, however, to get his oats sown by the 1st of April, as he approved the trite old proverb, that "an early seeding is generally a good one;" but on the 5th, fell a snow, unexampled in Ireland, at almost any period of the year. The wind, which was as boisterous as if the family of Æolus had been puffing through all their pipes,

blew it into drifts many feet deep on low and sheltered lands, of which ours was a specimen, and sufficiently deep in others to reduce the country to the appearance of a white unbroken plain, and render the roads impassable. The snow lay in many places till the end of the month, and when at last it disappeared, our crop, and that of hundreds beside, was spoiled by the superabundant moisture bursting the seed; many sowed the ground a second time, and others from the state of the land were forced to postpone their oat sowing till the first or second week in May. The harvest was extremely late, unfavourable, and unproductive; the growth of a small farm was insufficient to support a middling family, with the most prudent economy, without leaving any thing for seed or the landlord. In the succeeding spring of 1800, we bought Poland oats for seed, at 1*l.* per cwt., and seed potatoes at 1*s.* 2*d.* per stone. This year also was a most distressing one, potatoes were not larger than crab apples, and in the early season had strings similar to what appears in those of a former season whenever grown in the bin, and those who were forced to eat them without flour were all more or less injured in health, and appeared, poor souls, like so many Indian fortune-hunters returned after a twenty years' baking in the salubrious verticality of Bengal. Oatmeal that year reached 50*s.* per cwt.; a farmer actually refused 50*s.* with the observation that "at 56*s.* both huyer and seller might live," he was punished, however, by the plenty of the succeeding year, having to sell the same stock for 10*s.* 6*d.* No flour but that imported could be used by the weavers as paste, and this was sold at 8*d.* per lb.; in short, the years 1799 and 1800 were long remembered as eras in which distress in Ireland had attained its acme; but my poor father looked upon them as just retributions for the sin of rebellion, of which he laboured so successfully to instil a hatred into his family, that, warned by his deep contritions, and honouring his memory, his children have continued uncompromising loyalists ever since, though I am not quite sure that the advocacy of revolutionary principles would be at all likely to thwart our prospects in life, under existing circumstances.

BAKING BREAD BY STEAM.—About twelve months ago we inserted a paragraph, stating that a machine had been invented in America, which could manufacture a ton weight of flour biscuits in an hour. This gave rise to much conversation at the time; and we must confess we were ourselves, though somewhat fond of the marvellous in mechanical powers, amongst those who doubted the authenticity of the statement. This paragraph, however, was not without its effect. Amongst others it caught the eye of Mr. Dodgson Carr, of this city, who being a practical man, determined to inquire into the real facts of the case. He soon found that the statement was true in all its parts, and, like a sensible man, he determined to profit by his knowledge. A machine was ordered; and in a very short time large and commodious premises were erected in Caldwellgate; and in that once neglected part of our city there is now actually at work a machine fully capable of performing the wonders ascribed to it in our paragraph. We had the curiosity to visit the place the other day, and must confess that on seeing the machine all our doubts vanished. It is fully capable of doing the work named, and the ingenuity of the invention is no less striking than its cleanliness, neatness and portability. The dough or paste is kneaded by machinery, rolled by machinery, and cut into form by machinery; and by and by it will be baked by the same steam which carries that machinery.—*Carlisle Journal.*

DEVON AGRICULTURAL SOCIETY.

The tenth exhibition of this society took place on Tuesday, May 16, in the Castle Yard, Exeter, and if proof had been wanting of the great utility and general advantages that have arisen from the establishment of it, which there is not, this exhibition would have most amply furnished it. The show was not large, but evidence of improvement in the stock of this county was most manifold. The bulls were most of them extraordinary animals; the oxen sent by Mr. George Turner, most splendid of their kind: there were also several good dairy cows. The rams, as well old as hog rams were superior to anything in this way that has heretofore been shown here: as also were the couples, and the ewe hogs, and wether hogs. In the same terms the show of pigs must likewise be spoken of, a boar and sow pig, sent by Mr. John Hooper, jun. Chagford; and a sow and her family, sent by Mr. Robert Rookes, Topsham Road, exciting general admiration. Of perfect horses one only was shown, and that a very superior cart stallion, sent by Mr. Edward Elliott, of Sharpsham, Totnes. This animal was a remarkable horse, 17 hands high, strongly built, but handsome with a clean leg, and exceedingly active. There were also several colts of the horse Elephant. Of old bulls, the superiority of which has been already spoken of, No. 1, nearly 4 years old, was the property of John Gould, Esq. Anabard House, Pitminster, near Taunton; No. 2, was a two year old the property of Mr. John Upham, Coombe Lancey, Sandford; No. 3 rising 5 years, the property of Mr. George Turner, Barton, Exminster; No. 4, rising 3 years, the property of Mr. John Bodley, Stockleigh Pomeroy; No. 5, rising 4 years, the property of Mr. Wm. Gater, Cadbury; No. 6, a 2 year old, the property of John Henry Ley, Esq. Trehill; No. 7, a 2 year old, the property of Mr. Wm. Milton, Ide. For the Acland premium of a piece of plate, or 10*l.*; there were exhibited, No. 1, a yearling bull, 12 months old, the 28th of March last, the property of Mr. James Hellings, Hockworthy; No. 2, 12 months old at Christmas last, a beautiful animal, the property of Mr. George Turner, Barton, Exminster. There was also in this part of the Castle Yard, a fine bull, rising 3 years, not entered for a premium, the property of Mr. Thomas Townsend, of Upton Pyne. Among the extra stock likewise, were the four oxen, the property of Mr. George Turner, already spoken of. These are all North Devon's; were bred and fed by Mr. Turner, and were the theme of general praise, for their perfect symmetry and beauty. They were estimated at 16 score the quarter. Of dairy cows, there were two pair, the property of Mr. Thomas Reynolds jun., Uton Barton, Crediton; and a pair the property of Mr. Thomas Cleeve, Rewe; as also single dairy cows from the farms of Mr. George Turner; Mr. Thos. Reynolds, senr. Raddon Court, Thorverton; Mr. John Wippell, Lower Brentan, Exminster; and Mr. John Bodley, Stockleigh Pomeroy. No. 1, of 3 year old heifers was the property of Mr. George Turner; No. 1, of 2 year old heifers, of Mr. Thos. Reynolds, senr.; No. 2, of Mr. John Wippell. Of the fancy cows entered for premiums, were two, a 3 and 4 year old, very beautiful animals, the property of Thomas Snow, Esq. of Franklyn, and bred on that gentleman's farm. There was also among the extra stock of this description, a Guernsey cow, with her calf, got by a Birman bull, that excited much curiosity. T. F. Bidgood, Esq. Rockbeare, sent in 9 yearlings of the Durham breed, all dropped in the month of May, as also the father of this progeny. In the splendid show of sheep, No. 3, of old sheep (rams), is the property of G.

S. Fursdon, Esq.; No. 4, of that celebrated breeder, Mr. Thos. Reynolds, senr.; No. 5, Mr. Thos. Reynolds, junr.; No. 7, Mr. Samuel Drew, Pengilly, Aliphington; No. 9, Mr. Hellings, Kentisbeare; Nos. 10, 11, 12, 13, 14 and 15, Mr. John Bodley; Nos. 16 and 17, Mr. Wm. Wippell, Rudway, Rewe; No. 18, Mr. Richard Gibbings, Higher Brenton, Exminster; No. 19, Capt. Aduey, Rympstone. Of hog rams, Nos. 5, 6, 7, 8, 9 and 10, were the property of Mr. Samuel Drew; Nos. 11, 12 and 13, of Mr. George Turner; Nos. 14, 15, 16 and 17, of G. S. Fursdon, Esq.; Nos. 18 and 19, Mr. T. Reynolds, senr.; Nos. 20 and 21, Mr. John Wippell; Nos. 23, 24, 25 and 26, of Mr. Philip Francis, Moor, Crediton; Nos. 28, 29 and 30, Mr. John Upham; Nos. 32, 33, 34 and 35, of Mr. Wm. Wippell. Of ewes and lambs, Nos. 1 and 2, were the property of Mr. Samuel Drew; No. 3, of Mr. Wm. Prowse, Thorverton, Nos. 4 and 5, of Mr. George Turner. Of ewe hogs, No. 1, was the property of Mr. William Prowse; No. 2, Mr. John Wippell, No. 3, G. S. Fursdon, Esq.; No. 4, Mr. John Upham. Of fat wether hogs No. 1, was the property of Mr. S. Drew; No. 2, James W. Buller, Esq. Downes; No. 3, Mr. Richard Gibbings. In the superior display of pigs, of boars, No. 1, is the property of Capt. Adnoy; No. 2, Mr. John Wippell; No. 3, Mr. John Hooper, jun. Chagford. Sows:—No. 1, the property of John Hooper, jun.; No. 4, of Mr. Richard Gibbings; No. 5, Mr. Robert Rookes; Nos. 6, and 7, Mr. John Bear, Kenton.

The Judges were:—

For Horses and Agricultural Implements.—Capt. Thomas Locke Lewis, R. E. Exeter; Mr. John Drew, St. Thomas.—For Sheep and Sheep Shearers.—Mr. George Gater, Cadbury; Mr. G. G. Bulmer, Tregair, Newlyn, near Truro, Cornwall; Mr. Robert Chapple, Ottery St. Mary. For Cattle and Pigs.—Mr. Thomas Hole, Great Gutton, Shobrooke; Mr. Henry Tretheway, Grampound, Cornwall; Mr. Amos Parsons, Lifton.

A large and most highly respectable company of gentlemen and agriculturists were in the Castle Yard, and as well as the stock, the process of sheep shearing, carrying on under the piazza of the session house, drew much attention.

THE DINNER.

This took place at Cockram's New London Inn, where about 114 sat down, and the company subsequently increased to upwards of 150. John Sillifant, jun., Esq., was in the chair; and the vice-presidents were James Wentworth Buller, Esq., and Edward Simcoe Drewe, Esq.

The cloth being removed, the CHAIRMAN gave "The King," which was drunk with three times three. To this followed "The Queen," which was similarly honoured.

The CHAIRMAN then said, that on the next toast he should have the honour to introduce to their notice, he desired to make a few observations. (*Hear.*) He had to propose to them the health of a noble individual, intimately connected with that institution, which it was his desire to call noble also. He meant the Devon Agricultural Society. (*Applause.*) It would be almost impertinent in one so young as he was to descend before that company on the many excellencies, as well in his private as in his public conduct, of the noble Earl Fortescue; (*cheers*)—but holding the situation he did among them, they would permit him to say that it was age alone which had prevented him (Earl Fortescue) from presiding at any of the meetings of that society. (*Hear, hear.*) The honour, however, they had done him (Mr. Sillifant) that day, in placing him in that chair, called upon him to perform those duties which naturally devolved on the person filling that situation, and to address them generally on the prospects and state of the society. (*Hear, hear.*) With respect then to its condition, he

was most happy in being enabled to inform that meeting, that the society was never more flourishing than it was at that moment. (*Cheers.*) At first, like many young establishments and young persons, they begin at too rapid a pace, but having timely discovered their error, by plans of well regulated economy, and cutting off some things which it was felt might be dispensed with, it was his hope the permanence of the society was secured without impairing any thing of its usefulness or its energy; and what he had witnessed that day, confirmed him in the opinion that at the end of a year in which this system of economy had been bringing into operation, their finances were not only improving, but that the society itself was more stable, and more useful than it had even before been. (*Cheers.*) With respect to the exhibition they had that morning witnessed, there might have been larger he would admit, but never since the formation of the society had there been one altogether so superior in its character as the exhibition of that day. (*Great cheering.*) He took it that their object had been, not to bring together a mass of inferior stock, but that if their exhibitions were small in amount they should be such as the county of Devon might well pride itself upon, and in all respects superior in their character, and in that way he felt he was entitled to speak of the exhibition of that day. (*Great cheering.*) With regard to the state and the prospects of agriculture itself, he could only repeat an opinion which he had hazarded in their presence before, and that was, that they must not look to legislation for assistance, but look to, and trust to themselves. (*Cries of hear.*) He thought he had the best ground for saying this, because it was a doctrine in which he could be clearly borne out by reference to the past. (*Hear, hear.*) He had recently read some remarks on this subject in a very interesting paper, which went most fully to substantiate what he had asserted, that there was a field open for them, and the extent of which was continually receiving increase, that required only exertion on their part to enable them to draw from it most profitable return. (*Hear, hear.*) This paper showed the amount of stock exhibited at Smithfield market from the year 1750 to 1831. The average number of head of cattle in ten years from 1750, was 74,000. The average number of head of cattle in ten years to 1831, was 156,000. In like manner the number of sheep in the first period was 570,000; in the latter 1,238,000. (*Cries of hear.*) But this, great as it undoubtedly was, was far from being all, as in 1750, the average weight of each bullock slaughtered, was 37lbs.; in 1831 the average weight was 800lbs. each. So also of sheep, in the first period the average weight was only 28lbs. each; in the latter they were 80lbs. each. (*Hear, hear.*) In order, however, that they might be aware of the practical importance of information such as this, and the improvements to which it should urge them on, they must not consider that the increase in the number of head of cattle, or of sheep was all—they must not consider that the increase in weight was all—but they must take this fact also along with them, that looking to the state of the population, there was an average increase of 248,000 souls per annum. (*Cries of hear.*) With such an increase then in the number of consumers—with such a number of mouths that must be fed—with such a market for all produce before them, what could undermine the agricultural interests, if it exerted its proper energies and were true to itself? (*Cries of hear.*) Surely nothing could injure it; vicissitudes it might experience, but these must ever be caused by circumstances that were temporary in their nature, and for which it could not be long without a remedy being found. (*Hear, hear.*) In the article of wool, which was yearly becoming of more and more importance to the farmer, great increase in weight was taking place; he found that the produce of the country in this way in 1800, was 384,000 packs; in 1830, it was 463,000 packs, being an increase of 20 per cent. (*Cries of hear.*) Thus they would see that while on the one hand the increased population imparted new energies to agriculture, and opened to it a market for whatever amount the land could sustain, or be caused to produce, so did this great increase of fleeces enable the farmer to render back to the popu-

lation the means of warmth and comfort, by which the pleasures of life were increased. (*Hear.*) Where then should agriculturists look for help, but to themselves,—in the improvement of their stock, and in the improvement of their farms, so that while the former were increased in weight, and rendered more valuable in the market, a greater amount of produce than before was drawn from any given quantity of land also. (*Hear, hear.*) And how could they see stock as had been brought together that day, without feeling a conviction that this ready market that was opened from the large populations of our towns did operate as a stimulus; did lead to improvements in all things relating to agriculture; and he doubted not in the end would be found to be a sustaining and recompensing means for all that were engaged in such pursuits also. (*Hear, hear.*) He called on them, then, to zealously go on in seeking the improvement of their stock; to go on in the improvement of their farms, assured as he felt, that this industry and these exertions would not be without their reward. (*Hear, hear.*) To improvement in both these respects he thought it would be admitted that society had conducted, and he, therefore, hoped they would unite with him in doing all due honour to its President, by drinking the health of Earl Fortescue, and prosperity to the Society over which he presides. This proposition was received with great enthusiasm and drank with three times three.

Premiums for Agricultural Labourers.—These were called in, and the premiums adjudged as follows, read by Mr. Dymond, the Secretary.

AGRICULTURAL LABOURERS, &c.

To the agricultural labourer who has lived the longest either on the same farm, or under one master, and who can bring the best testimonials for honesty, sobriety, and general good conduct from his employer, *4l.* Awarded to Richard Heywood, aged 71, who has worked 53 years without intermission, on Abbotsham Farm, in the parish of Brushford, with Mr. Robert Luxton and his predecessors, has brought up eight children without parochial relief, and has been throughout an honest and industrious labourer.

To the agricultural labourer who has lived as above, and whose testimonials are in the next degree satisfactory, *2l.* To John Kentisbeer, aged 63, who has lived 53 years, including his apprenticeship with Mr. Joseph Cheriton and his father, in the parish of Down St. Mary, and has always borne an excellent character.

To the agricultural labourer, who has lived as above, and whose testimonials are highly satisfactory, *1l. 10s.* Presented by Capt. Lewis, R. E. to William Hill, 73 years old, who has worked with Mrs. Harris and her predecessors on Aller farm, in Kentisbeer, for a period of 53 years, and has conducted himself with great propriety during the whole time.

To the agricultural labourer, who has brought up the largest family without parochial aid, and who can bring the best testimonials as to character, *4l.* To John Knight, aged 51 years, who has brought up 11 children without parochial relief, has worked 25 years without intermission with Mr. William Arnold, of Park farm, Iddeleigh, and has always conducted himself as a highly respectable and industrious labourer.

To the agricultural labourer, who has brought up a family as above, and whose testimonials are in the next degree satisfactory, *2l.* To Simon Alford, aged 72 years, who has brought up eight children without parochial relief, has worked 51 years, with Mr. Arnold and his father, in Iddeleigh, and has always conducted himself in a respectable and becoming manner.

To the agricultural servant, who has lived the longest under his or her master's roof, *1l. 10s.* To Sarah Gardner, aged 52 years, who has lived as an apprentice and an in-door servant, with Mr. James Loosemore, of Molland, 41 years, and has always conducted herself as an excellent servant.

To the servant who having lived out his or her apprenticeship, has remained the longest period with the same master, since the expiration of such apprenticeship, *2l. 10s.* To Samuel Turner, who has lived as ap-

prentice and worked as in and out-door servant with Messrs. Norris, of Howell farm in Colebrooke, 46 years; has lived 31 years in the same cottage—has 10 children now living, and has served his master faithfully and honestly.

To the servant under simi ar conditions, the length of whose servitude has been of the next degree satisfactory, *II. 10s.* To Thomas Sobey, who has lived as an apprentice and worked with Mr. Baker, Colebrooke, 42 years; has brought up six children without assistance, and borne an excellent character.

To the servant under similar conditions, the length of whose servitude is of the third degree, *II.* To Joseph Roberts, who has lived as an apprentice, servant and labourer, in all 39 years, with Mr. Moxey, of Exwick, St. Thomas, has always been an honest and industrious man.

The sums being delivered to each present, the CHAIRMAN addressed them, saying he was glad indeed for their sakes, and of society at large, of which they formed a valuable part, that they had found the lessons they were taught in their youth to be founded in wisdom and in truth, that honesty to their masters, and industry was not without its reward. And turning to the company the Chairman said, he could not suffer these honest men to leave the room, and such a company, without proposing a toast having reference to them, or without observing, that these worthy members of society were a proof, that where there is industry there is also the means of support. (*Hear, hear.*) There was likewise an incident with respect to these deserving labourers, that he could not forbear to mention: it was the difficulty the committee had been in with respect to the adjudgment of the first premium. The three candidates whose names now stood first on the list, had each served 53 years, and at length they determined to give their award in favour of Richard Heywood, who had brought up eight children without parochial relief. (*Cheers.*) He would give them a toast he was sure would come as near their feelings as it did to his own. *An honest Peasantry, their Country's pride.* Drank with great applause.

Mr. BULLER now rose, and having pronounced a warm eulogy on him, and his (the chairman's) highly respected father; and also spoke of the great importance of agriculture, which he most truly denominated the most ancient interests in the country, proposed the health of their worthy Chairman, *J. Sillifant, jun., Esq.* Drank with nine times nine.

Mr. SILLIFANT rose to acknowledge the toast, assuring the company he cared little for himself, if he could only help the great cause he had at heart—an increase of the comforts and happiness of all classes, and a desire to see agriculture flourish. To assist the cause of the plough and the fleece did indeed give him sincere pleasure, and to meet such a body as he had that day, was one of the most delightful things possible. Mr. Sillifant then stated how it was he had been called to the Chair that day: an application in the first instance had been made by the Secretary to the Earl of Devon, who is in London, and from whom an answer had been received, stating his regret that his engagements at this time prevented his leaving it, and joining the meeting of a Society in which he felt really and deeply interested; inclosing also a 5*l.* note, to be appropriated hereafter as the Secretary shall deem best for the promotion of the objects for which it was instituted. (*Cheers.*) The Chairman also explained how it was that a larger number of landowners were not then with them, stating the change which had taken place in the Society's exhibitions, which were now limited to one in the year, and that it had been decided should be at this period of it, when, from the sitting of Parliament, the nobility and many of the gentry of the county were necessarily in London. He thanked them for the manner in which his name had been received, and begged to propose the health of the Vice-Presidents, Mr. Buller and Mr. Drewe.

Drank with three times three, and one cheer more.

Mr. BULLER, in acknowledging it, said, he felt deeply such a compliment from such a body of men, whose good opinion he highly valued, and whose interests he

felt it his duty to promote. (*Cheers.*) His name having been alluded to by his hon. friend the Chairman, in connexion with the exhibition that day, he would honestly say, that he was not at all sanguine as to any results from this that might be flattering to himself, his object in causing these Sheep to be driven here, being not personal honour, but to show how much he valued the Society. (*Cheers.*)

Mr. DREWE also acknowledged the compliment which had been paid him, apologizing for any thing of imperfectness of manner, from having just arisen from a sick bed, to which he had been for two months confined. From the formation of that Society, he had felt the deepest interest in its concerns, having heard of the intention to establish it with the greatest satisfaction, and this because he was convinced that others having also the promotion of pursuits connected with agriculture for their object would spring from it, and this had proved the case. (*Cheers.*) As breeders of cattle, he could not too earnestly recommend to all who heard him, to look to the original—the parent stock of this county: to improve it to the utmost; but to be most careful that nothing was done that would lead to its deterioration. (*Hear, hear.*) He could not claim for himself the character of a practical agriculturist, but no one more ardently desired that such pursuits should be crowned with success, for all his interest in this county lay in agriculture. He, therefore, had felt proud of the exhibition of that day, in which there had been visible great improvement, and in no department any thing of falling off, except indeed, in milch cows, for which the nature of the season most fully accounted. (*Hear, hear.*) He again thanked them for the notice they had taken of himself, and hoped always to see the Society receive the general support of the county.

The Sheep-Shearers were now introduced, and the premiums awarded them read as follows by Mr. Dymond:—

TO THE SHEEP SHEARERS ON THE GROUND.

MEN.

- Best sheep shearer, *II. No. 14,* Hog Ram, to James Garrey, shearer to Mr. Vicary.
 Second, *15s. No. 1,* old do., to Richard Griffin, shearer to Mr. T. Hole.
 Third, *10s. No. 27,* Hog do., to James Bowden, shearer to do.
 Fourth, *5s. No. 26,* Hog do., to Thomas Fourcres, shearer to do.

BOYS UNDER TWENTY.

- Best, *15s. No. 3,* Hog do., to John Reynolds, shearer to Mr. Thomas Reynolds.

The CHAIRMAN spoke of the great improvement which had been observable that day in the performance of this process; and of the value, whether with relation to personal comfort, or in a commercial point of view, of the fleece itself, making some exceedingly pertinent remarks on this subject, and urging them to look to the quality and weight of the fleece, as well as the carcase. Concluding by giving "The Fleece" with three times three, which was literally complied with.

The CHAIRMAN now spoke of the plan which had been devised and acted upon in this instance for the selection of Judges; concluding by giving the healths of the Judges, with thanks to them for their attendance, and for the manner in which they had discharged their duties that day. This was drank with three times three; and the toast acknowledged by Mr. Bulmer.

The SECRETARY now announced the premium for

HORSES.

- Best cart stallion, *5*l.**, Mr. Edward Elliott, Sharpham, near Totnes.

And delivered in the following report from the Judges for agricultural implements:—"The Judges for agricultural implements beg to report that they consider the improved turnip cutter exhibited by John Phillips, of Cruwys Merchard, deserving of notice and encouragement, and they accordingly award him the sum of two pounds. Signed, "Thos. Locke Lewis, John Drew."

The successful candidates were drank, and Mr. ELLIOTT acknowledged the toast.

The SECRETARY then proceeded to announce the premiums awarded for sheep, the announcement of the name of Mr. Buller among the successful candidates, being received with bursts of the heartiest cheering, which lasted for several minutes.

SHEEP.

Best old ram, 5*l.*, No. 4, the property of Mr. Thomas Reynolds, Thorverton.
 Second best ditto, 3*l.*, No. 6, the property of Mr. Geo. Turner, Exminster.
 Third best ditto, 2*l.*, No. 12, the property of Mr. John Bodley, Stockleigh.
 Best hog ditto, 5*l.*, No. 13, the property of Mr. George Turner, Exminster.
 Second best ditto, 3*l.*, No. 32, the property of Mr. Wm. Wippell, Thorverton.
 Third best ditto, 2*l.*, No. 28, the property of Mr. John Upham, Sandford.
 Best pen of not less than 10 ewes and lambs, in their wool, 4*l.*, No. 4, the property of Mr. George Turner, Exminster.
 Second best ditto, 3*l.*, No. 1, the property of Mr. Samuel Drew, Exminster.
 Third best ditto, 2*l.*, No. 5, the property of Mr. George Turner, Exminster.
 Best pen of not less than ten ewe hogs, in their wool, but to have been shorn as lambs, 3*l.*, No. 2, the property of Mr. John Wippell, Exminster.
 Second best ditto, ditto, ditto, 2*l.*, No. 4, the property of Mr. John Upham, Sandford.
 Third best ditto, ditto, ditto, 1*l.*, No. 3, the property of George S. Fursdon, Esq., Thorverton.
 Best pen of not less than ten fat wether hogs, in their wool, but to have been shorn as lambs, 2*l.*, No. 1, the property of Mr. Samuel Drew, Exminster.
 Second best ditto, ditto, ditto, 1*l.*, No. 2, the property of James W. Buller, Esq., Downes.
 Silver medals to No. 2, old sheep, and Nos. 14 and 15, hogs, in consideration of their superior fleeces.

No. 2, old sheep, was stated to be the property of Mr. Philip Francis; and Nos. 14 and 15, hogs, before mentioned as the late Mr. Fursdon's, to be the property of Mr. Vicary, the lessee, as was understood, of an estate of the Fursdon family.

The CHAIRMAN gave the healths of the successful candidates. Which was drank with nine times nine. And acknowledged by Mr. Buller, and by Mr. George Turner, in exceedingly just and pertinent remarks.

The CHAIRMAN next in an appropriate manner introduced, and gave "The manufacturing and commercial interest of the country, and may they ever flourish together," which was drank with three times three.

Mr. DYMOND now read the premiums awarded for

CATTLE.

Best bull of any age, 8*l.*, No. 4, the property of Mr. John Bodley, Stockleigh.
 Second best ditto, 4*l.*, No. 2, the property of Mr. John Upham, Sandford.
 Third best ditto, 2*l.*, No. 3, the property of Mr. George Turner, Exminster;—No. 5, a silver medal, property of Mr. Wm. Gater, Cadbury.

PREMIUM OFFERED BY SIR T. D. ACLAND, BT.

Best bull, the property of, and exhibited by, the breeder thereof, not to exceed two years old, on the 24th June, 1837, a piece of plate, or 10*l.*, No. 2, the property of Mr. George Turner, Exminster.

Best two dairy cows, 4*l.*, No. 2, the property of Mr. Thomas Reynolds, jun., Crediton.
 Second best ditto, 2*l.*, No. 1, ditto, ditto.
 Best single dairy cow, 2*l.*, No. 4, the property of Mr. John Bodley, Stockleigh.
 Second best ditto, 1*l.*, No. 2, the property of Mr. Thos. Reynolds, Crediton;—No. 1, a silver medal, the property of Mr. Turner, Exminster.
 Best three-year old heifer, in milk, 2*l.*, No. 1, the property of Mr. George Turner, Exminster.
 Second best ditto, 1*l.*, none.

Best two-year old heifer, 2*l.*, No. 2, the property of Mr. John Wippell, Exminster.

Second best ditto, 1*l.*, No. 1, the property of Mr. Thomas Reynolds, Thorverton.

Best milch cow, of any breed except the Devon, 2*l.*, No. 1, the property of Thomas Snow, Esq., Franklyn. And also on this subject delivered in the following report:—"The Judges for Cattle beg to recommend that a silver medal be given to the owner of the Old Bull, No. 5, (Mr. William Gater's,) and another to the owner of the single dairy cow, No. 1. They also wish to state their opinion, that four fat oxen (Mr. G. Turner's,) shown as extra stock, are highly deserving of notice."

The health of the successful candidates was drank with three times three. And acknowledged by Mr. BODLEY, Mr. T. REYNOLDS, jun; and Mr. GEORGE TURNER, who stated as a complaint on the part of his neighbour and friend Mr. John Wippell, doubts as to some part of the stock, to which premiums had been awarded, having been in possession of the exhibitor six months, and moved that it be referred to a committee. The CHAIRMAN said this was a proper subject to mention there, but certainly the persons to examine into and decide upon it, were the committee.

The CHAIRMAN now introduced, amidst thunders of applause, the donor of the premium for the yearling bull, Sir Thomas Dyke Acland, who had been in the Castle that morning, and was most desirous to have been present that afternoon, but he (the Chairman), supposed circumstances had prevented the hon. baronet from returning in time from a previous engagement.—This was drank with the most lively enthusiasm, and followed by nine times nine hearty cheers.

The CHAIRMAN now announced that the premium for the yearling bull, would next year be taken up by Sir Humphrey Davie. (*Great cheering.*) And had further happiness in stating, that this premium was in store for bulls yet unborn. (*Cheers.*)

The SECRETARY then announced the premiums awarded for

PIGS.

Best boar, 3*l.* No. 1, the property of John Adney, Esq., Lymptone.

Second best ditto, 1*l.* No. 3, the property of Mr. J. Hooper, Chagford.

Third best ditto, 10*s.* No. 2, the property of Mr. J. Wippell, Exminster.

Best sow, 2*l.* No. 4, the property of Mr. Richard Gibbins, Exminster.

Second best ditto, 1*l.* No. 1, the property of Mr. J. Hooper, Chagford.

Third best ditto, 10*s.* No. 5, the property of Mr. R. Rookes, Topsham Road.

times successful candidates were drank, with three which three. As also the unsuccessful candidates;

The was acknowledged by Mr. JOHN BEAR.

The CHAIRMAN now rose and spoke of the valuable services, in committee and otherwise, but most particularly in the former, rendered to the Society by Capt. Lewis, a man of science and of great talents, (*cheers*)—and whom he had hoped to have seen there, but supposed some circumstances had prevented him. One circumstance relating to Capt. Lewes, he could not forbear mention. (*Hear, hear.*) At the last meeting of the committee, there was a very deserving man, Wm. Hill, for whom the committee could not find a reward, when Capt. Lewis, generously, and because the finances of the Society should not in any degree be trenchd upon, gave a premium of one pound ten shillings out of his own pocket. (*Great cheering.*) They would therefore, recollect that one of the deserving labourers they had seen just now, had been rewarded not by them; was not indebted to that Society for what he had received, but to Capt. Lewis. (*Great cheering.*) He would ask them then to join him in drinking the health of Capt. Locke Lewis, with three times three. This was fulfilled with great enthusiasm, and followed by one cheer more.

The CHAIRMAN gave prosperity to the county of Devon; and to the city of Exeter; as also "Their

next merry meeting."—Which was drank with three times three.

The CHAIRMAN gave the health of the Secretary. Which was drank, with three times three. And acknowledged by Mr. DYMOND: who in speaking of the future prospects of the society, and calling on each member for individual exertion, mentioned as a singular fact, that in the parish of Exminster, to which 14 premiums had that day been awarded, there were only 9 subscribers; and in Crediton, to which many premiums had also been awarded, only 6 subscribers; while in Exeter, not having that direct interest in it, there were 35 subscribers.

Mr. W. U. TRIPP announced the great desire Capt. Wyndham had that the financial affairs of the society should be put upon a more stable footing, and his readiness, as a commencement in order to the accomplishment of this by having a fund in hand, to give a donation of twenty guineas, besides an annual subscription of three guineas. (*Great cheering.*)

This terminated the business of the meeting, and at half past eight o'clock, the Chairman, Mr. Buller, Mr. Drewe, &c. &c., left the room.

PREMIUMS

AWARDED AT THE ANNIVERSARY OF THE CHIPPENHAM MARKET.

FOR WOOL.

	£
Messrs. Salter, for buying the greatest quantity of wool pitched in the market.....	25
Mr. Geo. Bailey, for buying the second greatest ditto.....	20
Mr. Jno. W. Brown, for selling the greatest quantity of Southdown wool, pitched in the market..	10
H. H. Budd, Esq., for selling the greatest quantity of mixed wool.....	10
Mr. Moses Toghill, for selling the second greatest quantity of any sort.....	8
Mr. Thomas Hulbert, for selling the third greatest quantity of any sort.....	7
Mr. E. L. Baldwin, for selling the fourth greatest quantity of any sort.....	5

GENERAL MARKET.

Mr. David Bowley, for purchasing the greatest quantity of cheese, pitched in the market.....	10
Mr. William Spackman, for selling the greatest quantity of cheese, pitched in the market.....	5
Mr. J. Brydges, for selling the second greatest quantity of ditto.....	5
Miss Ghey, for purchasing the greatest quantity of butter publicly offered in the market.....	6
Mr. J. Brydges, for selling the greatest quantity of ditto.....	5
Mr. John Little, for selling the greatest number of fat cattle.....	5
Mr. Joseph Whale, for purchasing the greatest number of fat sheep and lambs.....	5
Mr. W. Priddy, for purchasing the greatest quantity of poultry, pigeons, and eggs.....	4
Mr. Chas. Rich, for selling the greatest quantity of poultry, pigeons, and eggs.....	4
Mr. William Matthews, for selling the second greatest quantity of ditto.....	3
Mrs. Susannah Tanner, as a cottager, for selling the greatest quantity of ditto.....	2

THE GREEN CROP SYSTEM. — 1st. The old plan of grazing requires, for each cow, in the Summer months alone, two acres. 2d. By this system, three cows can be maintained all the year round, on two acres. 3d. The crops with which this is done are, clover and rye-grass, 1 acre; vetches (with a crop of rape, on the same ground,

after they are cut), 1 rood; turnips, 3 roods;—total, 2 acres. 4th. The order in which these green crops are to be used, is the following:—1st. House-feeding with clover and rye-grass, from the middle of May till the middle of October. 2d. Rape, from the middle of October till the middle of November. 3d. Turnips, from the middle of November till the middle of May. A moment's attention will show, that the statements in the last paragraph are perfectly correct. It is a well-known fact, that an acre of clover and rye-grass will be ample provision for three cows during the entire Summer months; and even this need not all be used; for, if the rape be sown after the vetches have been reaped, nearly half the first cutting may be saved for Winter fodder. The rape should be put into the ground regularly, ridge by ridge, as the vetches are taken off; and, if this be done in a proper time, say, previous to the middle of July, it will be quite ready to furnish food as a connecting link between the clover and the turnips. That the latter will afford food enough for consumption during the Winter half-year, is apparent from the following considerations:—"An acre of the white globe and yellow Aberdeen turnip, ought to produce from thirty-five to forty tons per acre; but supposing one-half to be of the Swedish kind, let us calculate only on twenty-eight tons to the acre." Now, from this it will appear, that the three roods of turnips ought to produce twenty-one tons, or 420 cwt., or forty-seven thousand and forty pounds, for the consumption of the three cows, from November till May. This will give fifteen thousand six hundred and eighty pounds to each, or about eighty-three pounds for each day's use. When hay, straw, &c., are added to this, we will surely find, that the two acres have been most profitably employed in raising stock, when cultivated on the Green Crop system.—*Downpatrick Recorder.*

THE NORWEGIAN FARMERS.—If there be a happy class of people in Europe, it is the Norwegian bonder. He is the owner of his little estate; he has no feu-duty or feudal service to pay to any superior. He is the king of his own land, and landlord as well as king. His poor-rate and tithes are too inconsiderable to be mentioned. His seat or land-tax is heavy, but every thing he uses is in consequence so much cheaper; and he has that which renders the heaviest tax light—the management of it by his own representatives, and the satisfaction of publicity and economy in its application. He has the satisfaction of seeing, from Storthing to Storthing, that the taxes are diminishing, and the public debt paying off. He is well lodged; has abundance of fuel; and that quantity of land, in general, which does not place him above the necessity of personal labour, but far above want or privation, if sickness or age should prevent him from working. He has also no class above him; nobody who can look down upon him, or whom he or his family look up to either to obtain objects of a false ambition, or to imitate out of a spirit of vanity. He has a greater variety of food than the same class in other countries; for besides what his farm produces, which is mostly consumed in his house-keeping, the fælde, the lakes and rivers, and the firds, afford game, fish, and other articles. He has also a variety of labour, which is perhaps, among the greatest enjoyments in the life of a labouring man: for there is recreation in change. He has no cares for his family, because he knows what their condition will be after his death. He knows that his wife succeeds to him, and as long as she lives unmarried the only difference made by his death is, that there is one less in the family. On her death or second marriage, he knows that each of his children has a right to a share of his property; and ac-

ording to their number he makes his arrangement for their either living on the land as before, or dividing it, or for being settled in other occupations, and taking a share of the value when it comes to be divided.—*Laing's Norway.*

FLY IN TURNIPS.

TO THE EDITOR OF THE CARLISLE PATRIOT.

Dalston, May 8.

SIR,—As the season is fast approaching for sowing Turnips I beg to offer the following receipt, as an effectual protection from the ravages of the fly, or black grub, which I have proved by frequent trial. I will feel happy if any of the farmers will call upon me this summer, when I hope to prove to them the efficacy of my receipt.
Your Obedient Servant,
JOHN BIRKETT.

To a quart of turnip seed add one ounce of brimstone finely powdered, putting both into a bottle large enough to afford room to shake them well together, for four or five days previous to sowing; keep the bottle well corked.

TITHE ON HOPS.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—I observed in your paper a few weeks back, some observations from a correspondent relative to the church rates at Farnham, and that 5*l.* was not an unusual demand for tithe on an acre of hops; I must inform your readers, as a tithe payer, that 8*l.* is not an unusual collection, and demand on an acre of hops [at this place, including the labour of picking, for the tithe is taken from the pickers' bins. This amount arises from the expenses and improved culture of the planters, they had already given a tenth of the poles in the wood, a tenth of the straw and corn had been taken, the remaining nine tenths is put into the hop ground in the shape of dung and poles for the hops to climb upon, a portion of this remaining ninth is also taken away, as a return upon the hops—so that this ecclesiastical tax is swallowing in large doses, a return from the cultivation of the soil, exceeding beyond measure anything contemplated by our ancestors, who established this iniquitous impost. But I have been the more struck at the disparagement between the exactions of the clergy, and their unwillingness to contribute their tenth to their poorer brethren, the motion of Mr. Baines, the other day in the House of Commons, on the first fruits and tenths of the clergyman's income, has fully shown this want of feeling in its true light; they have screened themselves under a quibble, a special pleading twisting of the words, "should be paid according to such rates and proportions only as the same were usually rated and paid." Instead of putting the most liberal construction on these words and allowing a tenth to be a tenth of every early income, or the first fruits to be in reality, the first year's receipt of a Bishop or Clergyman's benefice, they have taken unfair advantage of the ambiguous words, and have decided that a rate and proportion does not mean as now received, but as they were received 130 years ago; thus then, there remains livings for a clergyman and his family, of under 10*l.* per annum under 20*l.* 30*l.* 40*l.* 50*l.*—making an aggregate of 297 livings, under 50*l.* a year, yet Queen Anne's bounty has been in operation for the number of years above stated! A tenth of a clergyman's income seems to have a different meaning to a tenth of the farmers' income!! No, a tenth is not a tenth when applied to the clergy, I suppose in the same way, that, one is three, or three is one, of which only the gifted can understand. By the scale exhibited

by Mr. Baines, it would appear that if the richer livings, those exceeding 10,000*l.* per annum, a tithe of the income is equal to the first fruits, and a tithe of the tenth is equal to the whole tenth, that is, one is equal to ten; thus whilst the rich and luxurious clergy are fleecing the farmers of their full tenth income, they themselves, will scarce suffer a tithe of their tenth fleece to pass from them, but return their wool to keep their conscience warm,—indeed they have thus taught us a new axiom in mathematics, viz., that a tenth means a tenth of a tenth, in the same way, that one is three, and this mode of expounding, saves much trouble of demonstration, which in Euclid gave us so much trouble in understanding.—*Farnham, May 1837.*

TRIO VERSUS UNIO.

THE MARQUIS OF WATERFORD'S STUD.—The Marquis of Waterford's stud of steeple chace horses and hunters were put up to auction, on Monday last, at Tattersall's as follows:—

SOLD.		BOUGHT IN.	
	GS.		GS.
Yellow Dwarf.....	250	Haycock.....	160
Hallaton.....	150	Saladin.....	290
Salt-fish.....	280	Tulip.....	90
Priam.....	230	The Crow.....	100
Cock Robin.....	270	Conrad.....	250
Sir Gilbert.....	360	Jerry.....	57
Zoë.....	100	Tipsey.....	45
Sammivel.....	60	Chesnut horse, by	
Carrickshock.....	135	Comus.....	205
Rolla.....	71		
Bay Horse, by Young			
Phantom.....	125		
Gray Horse, by Comus			
out of Revolution's			
dam.....	150		

THE WEATHER.—In a work published in 1832, entitled *Mackenzie's Manual of Weather* the following remarkable passage occurs:—"The years corresponding with the 1782 and 83 are the 1836 and 37. In the former pair of years, the first summer and the last winter had by far the greatest proportions of the falls, the cold exceeding upon the first summer: on the contrary, in the last pair of years, the greatest falls are upon the first winter and the last summer; the cold being excessive upon both the summers of the pair, but more particularly severe upon the last, or summer of 1837, a season which promises to exceed in cold, rain, snow, frost, any summer within the last 500 years. It will, therefore, behove the rulers of the land, of all ranks, as well as the public at large, to be as well prepared for this severe visitation of nature as circumstances will permit,—for not only are these years exceedingly unfavourable, but the 1838 is equally unpromising: consequently this, and the following year of 1839, will form a period of distressing privation, since upon these two last the deficiency of the 1837 and 38 will fall with greatest effect."

TENACITY OF LIFE IN TENCH.—In September last four tench were taken out of a mere, at Playford, in Suffolk, in the morning, and were packed in dry straw. They arrived in London on the same evening, and two of them showing strong signs of life, they were put into river water and soon came round. At half-past ten on the following morning they were packed again, with the dead ones, in dry straw, slung to the lamp iron of a coach, and so carried to Sudbury, whence they were wheeled in a barrow, with other luggage, to Upper Halliford, Middlesex. On their arrival, about two p. m., one only was living. It was put into a tub of rain water, recovered in the course of the day, and on the next morning was turned into a pond quite lively and well. The four tench were much of a size, and weighed together about five pounds, but the survivor was rather the smallest.—*Quarterly Review.*

TABULAR VIEW OF THE CROPS OF WHEAT, 1815—1835 INCLUSIVE;

Annual and Five Yearly Scales of Productiveness—Annual and Five Yearly Average Price of Wheat—Aggregate Five Yearly Average Amount of Bank of England & Country Bank Paper—Amount of Population—Amount of Quarters of Wheat required for the Consumption of the Population—Rate of Depreciation of British Produce and Manufactures—War & Peace Prices of Wheat, &c. &c. founded chiefly on the Returns to Parliament.—Intended to show the close connexion between Currency and Price.

“ Les billets de banque où l'on croyait voir une source inépuisable de richesses, ne furent qu'un moyen de devorer des capitaux, de dépenser ce qu'on ne possédait pas, de faire banqueroute de ce qu'on devait.”—(J. B. Say. Traité d'Economie Politique, Discours Préliminaire.

Characters of the Crops of Wheat.	1. Scale of Productiveness.		2. Scale of Productiveness.		3. Price of Wheat.		4. Price of Wheat.		5. Aggregate Average of Bank of England and Country Bank Paper.		6. Increase of Population of Great Britain in round numbers.		7. Amount of Qrs. of Wheat required for the Consumption of the Population in round numbers.		8. Rate of Depreciation of British Produce & Manufactures exported, as shown by the difference between the official value and the declared value.		9. Table, to show that War, in itself, has no tendency to raise Prices, nor Peace to depress them, but rather the contrary.			
	Annual.	5-Yearly.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	Five-yearly.	Five-yearly.	Five-yearly.	Five-yearly.	Five-yearly.	Five-yearly.	Five-yearly.	Five-yearly.	Five-yearly.	Five-yearly.	Five-yearly.	
Abundant	120	102	64	4	93	4½	46,422,028	13,000,000	12,290,910	214	1688—1697	10 years	War	42	6½	1698—1701	4 do.	Peace	46	0
Very deficient	70	..	75	10	..	..	..	..	..	207	1702—1712	11 do.	War	39	11	1702—1712	11 do.	Peace	39	11
Average	100	..	84	9	..	..	..	..	..	185	1713—1739	27 do.	Peace	35	10	1713—1739	27 do.	Peace	35	10
Very abundant	100	..	73	0	..	..	..	..	..	195	1740—1748	9 do.	War	31	9	1740—1748	9 do.	War	31	9
Average	130	100	65	7	74	7½	42,011,470	14,000,000	13,233,360	170	1749—1754	6 do.	Peace	34	6	1749—1754	6 do.	Peace	34	6
Abundant	100	..	54	5	..	..	..	..	..	150	1755—1762	8 do.	War	37	1½	1755—1762	8 do.	War	37	1½
Abundant	120	..	43	2	..	..	..	..	..	148	1763—1774	12 do.	Peace	48	11½	1763—1774	12 do.	Peace	48	11½
Bare Average ..	90	..	51	9	..	..	..	..	..	143	1775—1782	8 do.	War	46	6½	1775—1782	8 do.	War	46	6½
Bare Average ..	90	..	62	0	..	..	..	..	..	141	1783—1792	10 do.	Peace	50	2½	1783—1792	10 do.	Peace	50	2½
Average	100	100	66	6	55	6½	29,800,533	15,000,000	14,178,810	146	1698—1701	4 do.	Peace	46	0	1698—1701	4 do.	Peace	46	0
Average	100	..	56	11	..	..	..	..	..	137	1702—1712	11 do.	War	39	11	1702—1712	11 do.	War	39	11
Average	100	..	56	9	½	..	..	..	..	127	1713—1739	27 do.	Peace	35	10	1713—1739	27 do.	Peace	35	10
Average	80	..	60	5	..	..	..	..	..	125	1740—1748	9 do.	War	31	9	1740—1748	9 do.	War	31	9
Deficient.....	80	..	66	3	..	..	..	..	..	114	1749—1754	6 do.	Peace	34	6	1749—1754	6 do.	Peace	34	6
Bare Average ..	80	88	64	3	60	11	30,072,700	16,000,000	15,124,260	110	1755—1762	8 do.	War	37	1½	1755—1762	8 do.	War	37	1½
Bare Average ..	90	..	66	4	..	..	..	..	..	109	1763—1774	12 do.	Peace	48	11½	1763—1774	12 do.	Peace	48	11½
Full Average ..	110	..	58	8	..	..	..	..	..	100	1775—1782	8 do.	War	46	6½	1775—1782	8 do.	War	46	6½
Full Average ..	120	..	52	11	..	..	..	..	..	..	1783—1792	10 do.	Peace	50	2½	1783—1792	10 do.	Peace	50	2½
Very abundant ..	130	..	46	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bare Average ..	130	..	46	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bare Average ..	90	108	39	5½	52	8½	26,718,927	17,000,000	16,069,710	..	..	..	..	..	..	..	..	..	..	..

Average Prices of Wheat in France, and in England, for periods of Five Years, and from 1781 to 1826 inclusive.

	France.		England.	
	s. d.	s. d.	s. d.	s. d.
5 Years, ending 1786	37 11½	48 0	44 10½	47 6
5 do.	1791	47 6	1796	58 11½
5 do.	1801	48 5½	1806	54 70
5 do.	1811	49 2½	1816	60 3½
5 do.	1821	50 5	1826	56 1

The “ Characters of the Crops ” have been fixed, after a careful comparison of the Writer’s experience and recollections, with the Annual Agricultural Reports in Periodical Publications, and other Authentic Accounts; and, it is presumed, they are pretty correct, as applied to the whole Kingdom.

5) 498
 Average 1815—1835 }
 viz. 21 years }
 Average 1811—1835 }
 viz. 25 years }

The preceding tables show—

1. That during the 21 years, ending with 1835, the population of Great Britain has increased at least four millions.

2. That for the consumption of these four millions of people, and for seed, there is required an additional quantity of nearly four million quarters of wheat.

3. That notwithstanding this new demand on the soil of this country for wheat, which might be expected to raise its price, it has had a progressive tendency to decrease in nominal value, during the whole period, until it has at length fallen near 50 per cent., as shown by the columns of prices, Nos. 3 and 4, although the external supply has, on the whole, been very moderate.

4. That this continued fall of price has not been confined to corn, or the produce of land, but has extended equally to almost all the products of British industry, as proved by the "ratio of the depreciation of British produce and manufactures exported," (see column 3).

5. That the common notion, that war raises prices, and peace depresses them, is founded in error, as shown by the table of war and peace prices, No. 9.

6. That there is a remarkable coincidence between the amount of Bank paper in circulation, and the price of wheat, as shown by the columns of prices, Nos. 3 and 4, compared with the amount of Bank paper, column 5.

7. That as the contraction of the currency has, in general, been proceeding with accelerated progress, during the last seventeen years, so the price of wheat has been descending with equal pace.

8. That this is strikingly apparent, on comparing the "average of Bank of England and country Bank paper" for periods of five years, (column 5), with the "price of wheat for periods of five years," (column 4), and if the fourth of these averages is rather higher than the third, it may be observed, not only that it contains three deficient years in the five; but that the average amount of paper currency is higher.

9. That as between the year 1797, when the metallic standard was suspended by the Bank Restriction Act, and the year 1819, when it was in a measure restored, by the Act called Peel's Bill*, a very great increase of Bank of England and country Bank paper took place—so

10. Also, during this interval, the price of corn, as well as of all commodities, rose greatly in England—so that for the average of the 25 years, ending with 1821, wheat was 30s. 10½d. per quarter (as may be proved by table, No. 10.)

11. That during this period France, having preserved her metallic standard, experienced no material rise of price—that of wheat being, on the average, only 52s. 7d. per quarter, (see No. 10).

12. That the price of wheat in England and in France did not differ much, so long as the same systems of currency was preserved by both, (see No. 10, 1786 to the end of 1791.)

13. That high average prices were confined to the period of unlimited issues, and consequent depreciation of the paper money.

14. That with regard to wheat, the deficient crops of 1828, 1829, 1830, and even 1831, kept up the price, and disguised the silent operation of Peel's

Bill; but the final withdrawal of the one pound notes, and a succession of favourable harvests, have, at length, removed the delusion, and discovered plainly that average prices cannot be much higher in England than in France and the continent in general †, when measured in a currency of, at least, equal value with theirs ‡.

Extract from a letter to Mr. James, from Mons. J. B. Say, which appeared in *The Morning Chronicle* on the 21st of August, 1822, as quoted by Mr. Thomas Tooke, "high and low prices," part 1st, page 179, and which was also inserted in a pamphlet, published about that time by Mr. Western, (now Lord Western). Mons. J. B. Say is, perhaps, the ablest writer on political economy, now living.

"We can state that things, generally, have not fallen in price in France since the depreciation and the restoration of the paper money of England, except as far as particular circumstances may have contributed; as the introduction of cheaper and more expeditious processes of fabrication; and I do not believe, therefore, that there is any ground for saying that the fall of price in England has its analogy on the continent. It appears to me that it proceeds entirely from the alterations in the value of your money."

ON CASTRATION.

MARCH 21, 1837.

(From the *Veterinarian*.)

A paper was introduced by Mr. Goodwin on CASTRATION. He observed that the object of this operation was two-fold—to render the animal more subservient, and to prevent the too rapid multiplication of the species. The latter would be the inevitable result of the domestication of certain animals, on account of their being protected from many a foe that preys upon them in their wild state, and the stimulus to procreation being increased by their more nutritious food, and the

+ "In a series of years, since the legislature has restored the ancient standard of value, wheat also must fall to its ancient price—to the price which it bore in a currency of the same intrinsic worth."—(Sir James Graham's "Corn and Currency," page 19.)

* The Report of the Committee of 1813 established the fact, that the highest price of wheat, which in the century prior to 1792, had taken place, for any average period of five years, was 49s. 9d. a quarter; and this range of prices is found at the commencement, as well as at the close of the century; that is to say, that the price of wheat, with no great average variation, remained uniformly under 50s. a quarter, from the first commencement of the present standard of value, until our departure from it. (*Corn and Currency*, ibid.)

‡ "The Act of 1819, which professed only to restore the ancient standard of England, did, in fact, considerably more; until 1793, silver was a legal tender by weight, and to any amount, at 6s. 2d. per ounce. . . . Mr. Peel's Bill made gold alone our standard; the market price of silver is somewhat less than its mint price, and its conjunction with gold as a standard, such as it was until 1793, would at once have effected a depreciation approaching to five per cent., would have enabled us to remit taxes to the extent of two millions and a half; and would have raised money prices exactly in the same proportion. Thus, not satisfied with a return to the ancient standard, regardless of all difficulties, we even ventured to raise its value." (*Corn and Currency*, p. 46.)

* Bank of England issues (average of 5 years, ending with 1796) £11,541,994
do. do. do. ending with 1818 27,457,868
(From Sir James Graham's "Corn and Currency.")

quietude and idleness in which they live. Young and unbroken horses are the most frequent subjects of this operation. The age which he would prefer is about twelve months, the animal evidently appearing to be in good health at the time, and having been examined as to the actual descent of the testicles into the scrotum.

Having described at considerable length, the most secure way of casting and properly securing the animal, Mr. Goodwin proceeded to speak of the different steps of the operation. Many of his remarks were valuable; but his plan of operation differed so little from that in usual practice, that it is unnecessary to state it at length. He recommended the division of the cord by means of the actual cautery; and after the hæmorrhage had been arrested by renewed application of the cautery, the pouring of a small quantity of melted digestive ointment into the wounds. The after treatment would be regulated by the degree of inflammation which supervened. The slightest appearance of peritoneal inflammation was to be met by the most decisive antiphlogistic measures.

In answer to a question from Mr. Brough, Mr. Goodwin said that he was in the habit of preparing the colt by gentle physic and restricted diet.

The PRESIDENT observed, that many practitioners, the weather being favourable, suffered the colt to go at large immediately after the operation, and that it was very rare that any bad consequences ensued.

Mr. GOODWIN was quite aware of this; but he had been in the habit of keeping the colt up for a short time after the operation. He regarded the spring of the year as the most favourable season; that, however, depending much on the state of the weather.

The PRESIDENT remarked, that Mr. Goodwin had advocated the old system of castration; other, and as some conceived better, modes of operating had been introduced. Had the author of the thesis, or any member then present, any remark to make on these novel methods of operating.

A pause ensuing, the President and Treasurer urged the members fearlessly to deliver their opinions. Mr. Spooner having for the purpose of exciting discussion, alluded to the practice of some surgeons of performing the operation far within the twelvemonth—

Mr. DAUBER first responded to the call, and advocated the postponement of the operation to the time selected by Mr. Goodwin. The general muscular power of the animal would be more fully developed. To a horse that was inclined to be poor, this was of material advantage as giving an arched form and more development to the neck. After the twelvemonth, the entire colt would become somewhat dangerous.

Mr. ARMSTRONG imagined that the advantages of castration were somewhat over-rated. He had seen hundreds of entire horses together on a field day in India, and there was no tendency to vice among them, unless they had been with mares. It was a very common thing, even in this metropolis, for several entire horses to be kept together, separated only by the usual rails.

Mr. HOLMES could not think that this was applicable to the common English horse. When our entire horses became two or three years old, a great deal of caution was sometimes necessary in order to keep them from injuring each other. Thoroughbred horses are seldom castrated until they are four years old, in order that their value as racers may be fairly put to the test. Would Mr. Goodwin make any difference in the operation depending on

the age of the horse? for his part he should use the actual cautery in old animals, and probably the caustic clams for young ones.

The discussion then turned on the use of the hobbles or the rope, in castrating young horses.

Mr. SPOONER was somewhat adverse to the use of the hobbles for colts. It was often difficult to get a colt to stand still, even while a halter was put on him, and sometimes no power would induce him to submit to the hobbles. The hobbles were on many occasions exceedingly useful, but they were inferior to the collar rope, and especially to young horses, when either castration or lithotomy was to be performed.

The PRESIDENT imagined that the gentlemen who advocated the use of the hobbles in the castration of colts referred to those that had been handled, and, as it were, domesticated from their birth. Great difficulty would be found in using the hobbles in castrating the cart colt.

Mr. GODBOLD stated, that he had extensively used the caustic clams, and with marked success—sometimes removing the testicles at once, but oftener allowing them to remain until the following day. The caustic which he used was a paste composed of corrosive sublimate.

Mr. HAUSMAN (son to the veterinary professor at Munich) stated, that in Germany they preferred the sulphate of copper, as being less irritating, and leaving the parts better disposed to heal.

The PRESIDENT stated, that on some parts of the continent the horses were brought to certain fairs in strings of twenty or thirty, in order to be operated on, and they returned home with the clams upon them, but which were removed the next day. He much questioned whether a horse that had never covered would bleed to death from castration if no means were taken to arrest the hæmorrhage.

Mr. GOODWIN had seen some fatal cases in the castration of rams, when the artery was tied to prevent hæmorrhage, but never when the clams were used, and suffered to remain on two days.

Mr. PLUMLEY had successfully castrated many rams by means of a simple ligature tied round the scrotum. In the castration of the horse he had observed, that when the inflammation extended along the perineum, danger was to be apprehended, but none when it was confined to the scrotum.

Mr. SPOONER did not understand the principle of this. The structure of the perineum was merely cellular. He had seen many cases in which inflammation had extended up the perineum, and yet the patients had done well; it was only when, from continuity of membrane, the peritoneal tunic was involved, that we had reason to dread the result.

Adverting to the method of casting a horse with a rope he preferred the placing the noose over the withers to between the fore legs.

Some difference of opinion existed as to the quantity of blood that should be suffered to be lost in castration. That operator was usually considered the most expert who only lost a small quantity of blood. For his part he had no objection to the loss of blood in castration, when it did not go to the extent of debilitating the colt; for inflammation was in that proportion less likely to be set up. For what reason were precautions, with reference to diet and laxative medicine, taken before the performance of the operation? A great deal of unfounded fear had been expressed of horses bleeding to death under the operation; but this could rarely or never be from the spermatic arteries alone, their peculiar tortuosity offering an insuperable obstacle to any fatal hæmorrhage. He had put this to the test. He selected

an old horse that had been given up for experiment. He cut the testicles away, and left the animal bleeding. Syncope after a while ensued; but the animal rallied and did well. In the young animal from the increased vascularity of the system, the result might possibly be different; and therefore the experiment was worth repetition.

He was favourable to the use of the clams, as the operation was less dangerous and more easily performed. After dividing the integument with a scalpel, and before placing the clams over the cord, he used to cut through the *vas deferens*; but he was then occasionally annoyed by the protrusion of the cord after the clams were removed. Mr. Baker, of Sudbury, suggested to him the propriety of embracing the whole of the cord in the clams. He adopted this method, and found it to answer well. Some persons imagined that the simple pressure of the clams was sufficient; but so far as his experience and that of some of his scientific friends went, the cut edges did not heal so readily, nor did the case altogether go on so well as when the caustic was used. He did not, however, think that it mattered much what caustic was used—he was accustomed to apply the corrosive sublimate made into a paste with meal and water, or with lard.

Mr. DAUBER said, that in two cases that had occurred in his practice, a considerable loss of blood had followed the incision through the integuments, and he was compelled to take the vessels up. He imagined that this must have arisen from some unusual distribution of the arteries.

Mr. SPOONER, in answer to a question with regard to the use of torsion in this operation, replied, that it might be useful in smaller animals, but he thought it could not be depended upon in the horse. As for that perversion of it, the twisting of the scrotum, the artery, and all together, he regarded it as the extreme of brutality.

Mr. DAUBER had found the ligature, occasionally at least, to cause peritonitis in the bull; he therefore preferred the use of the actual cautery for cattle, and also for the horse.

Many testimonies were then adduced in favour of the actual cautery, both by the President and Mr. Spooner, after which the meeting was adjourned.

ON AN EXPEDITIOUS AND ECONOMICAL METHOD OF IMPROVING GRASS LAND IN SCOTLAND.

(From the Quarterly Journal of Agriculture.)

The improvement of grass land is a subject on which much has already been written by various authors, and it may be thought superfluous to say more upon it. Yet I will add a few remarks, applicable to the present times, which has been termed "the commencement of a new era in agriculture." I allude to the prevalent practice in using bone-dust, in the cultivation of turnips generally, but more particularly, upon acclivities inaccessible to the dung cart, at elevations where corn does not ripen well in an average year, the avowed object of such aration being, *to ultimately improve the sheep pasture.* That theory is unexceptionable, but I mean to show, that where the practice is carried to excess, and conducted upon erroneous principles, as it frequently is, the result will assuredly be injurious to both landlord and tenant. My object in the present communication is, to caution farmers against the improvident

use of the plough under such circumstances; to point out the causes of failure, so frequently complained of, in obtaining good permanent pasture after a rotation of arable culture, upon cold high land; and to describe a process by which that desirable object may be attained with greater certainty, than by the methods usually practised for that purpose.

In elucidation of my object, I will first take a retrospective view of former extensions of arable culture upon our high cold lands, and the results thereof.

It is evident, from the almost obsolete traces of the plough at very considerable elevations upon many of our hills, that arable culture had extended there in remote ages. But whether the objects of that aration was the improvement of pasture or growth of corn, we have no means of ascertaining. It probably was for the latter object, as is indicated by the remains of regularly formed ridges. We may suppose the farmers of those days, having been stimulated, either by a succession of early harvests, or high price of corn, perhaps by both, to so extend their culture, would again restrict it, when their speculation proved adverse. The growth of corn on such land must have been still more hazardous in former times than at present, because, underground draining, so necessary for the improvement of cold land, was not then practised.

We do not know whether grass seeds were sown upon the land in question, when thrown out of cultivation, probably not; and even supposing the indigenous grasses, roots, &c. had been extirpated by a long course of clean culture, as in that case they would be, the beautiful hand of Nature has in the course of ages which have since elapsed, supplied herbage suitable to the soil and climate, as we now see those lands clothed in the same manner as the lands adjoining, where no traces of the plough are visible.

In drawing nearer to the present age, I next note the period about the commencement, and in the early part of the American war of independence. At that time, Scottish agriculture made rapid progress in various improvements, such as the use of a pair of horse ploughs; the proper application of manures; superior culture of turnips; more general cultivation of clover and rye grass, and in proper rotations of alternate white and green crops. These beneficial improvements were in a great measure effected by the spirited precept and example of the late Mr. Dawson, of Frogden, Roxburghshire;—a man who deserved well of his country, and whose name should be held in remembrance by Scotch Agriculturists. The admirable system of Scotch banking, having been perfected about the same period, liberally supplied the main spring to the enterprising industry of farmers. Mr. Dawson's practice in improved husbandry was judiciously confined to land suitable for the growth of corn, and it would have been well for many of his countrymen had they followed his example in that respect, but they unfortunately exceeded the bounds of prudence, in carrying their arable culture to excess. A great extent of hill pasture land was then broken up, and marl and lime freely applied for the purpose of stimulating it to the growth of corn; and although under-draining was but imperfectly understood at that time, and less practised than at present, yet that *corn growing mania* was prosperous for a time, so long as seasons were favourable, and prices of corn kept up. But a sad reverse soon followed. For, towards the conclusion of that unfortunate war, seasons proved adverse, and on the return of peace, trade was thrown open, speculation in home produce ceased, bankers restricted their credits, and corn fell greatly below re-

munerating prices. The results were such as might have been anticipated, hundreds of farmers were totally ruined, and many landlords sustained serious loss from those ill judged projects. The cold high lands which had been so imprudently broken up, were returned upon the landlord's hands, and were thrown out of cultivation in an impoverished state. In some instances the seeds of cultivated grasses were sown, which produced a scanty herbage in the first instance, and soon after died away, and the *native grasses having been destroyed by the prolonged arable culture*, the land became little better than a barren waste, requiring the efforts of nature in the succeeding half century, to restore it to as good pasture for sheep, as before it had been denuded in the manner here stated. In some instances, the bad effects are seen at the present day, for where those lands have since remained uncultivated, the pasture they produce is generally not so valuable as that upon the lands adjoining, which had not been broken upon.

The severe penalty on imprudence, inflicted as here detailed, ought to have served as a beacon, to guard both landlords and tenants against again entering into such hazardous speculations; but it appears to have been either neglected or forgotten in the time of the French Revolutionary war, when corn, from causes here necessary to mention, rose to unprecedented high prices. At that time, a great many, otherwise prudent men, miscalculating upon the permanency of high prices, were induced to hire farms at exorbitant high rents, on having permission to break up old grass land; and a great extent of high cold land useful as sheep pasture, but not adapted to the growth of corn in our cold variable climate, was consequently broken up and converted into arable. The results of this *second mania* were still more fatal than the first, the French war lasting much longer than the American, and the prices of produce being maintained at a much higher rate, both landlords and tenants miscalculated upon the permanency of their prosperity. They increased their establishments and general expenditure in various ways, both present and prospective, and in such a manner as could not be well reduced to the former standard, when the depression consequent upon the return of peace with its contingencies, ultimately took place. In that dilemma the landed interest struggled long and hard against their impending fate. The land was crossed cropped and exhausted, and debts deep and lasting were contracted in the vain hope of a re-action in prices of produce. Hence difficulties arose, from which many worthy men never recovered, and are by others severely felt to the present day. Painful as this view of the subject is, still it does not go to the extent of the calamity. For the cold high lands of which I treat, having been deserted and thrown out of cultivation, as formerly, were generally reduced to a complete state of exhaustion in the manner I have mentioned; and the roots and seeds of the *indigenous plants having been extirpated by extended courses of aration*, much of that misused land still remains in an unprofitable state, and many more years must yet elapse, before it can be again recovered by profitable natural herbage. There are, of course, some exceptions to the general result, but these are unfortunately thin strewed.

Having thus commented upon the errors of cultivation of cold high lands in former times, I will now consider the present, which, as I have before said, has been termed "a new era in agriculture," from the prevalent system of using bone-dust in the cultivation of turnips, and breaking up high pasture land for that purpose; a practice which I assert, if per-

severed in, as in the two last seasons, will soon amount to a *third mania* in attempting to grow corn in situations where the laws of nature do not admit of its profitable culture in an average of years; and that within the memory of man, for there are many others besides myself, now alive, who will remember the two former failures in that vain and ruinous attempt.

Let it not be supposed I mean to condemn the use of bone-dust as a manure for turnips. On the contrary, I highly approve of its use, when and where properly applied. My only object is to endeavour to dissuade occupiers from going to an excess in breaking up cold high land for the purpose of growing corn in the first instance, although I admit it may now be attempted with greater hopes of success than formerly, as under-ground draining is now so much better understood; and secondly for the purpose of growing turnips by the aid of bone-dust upon acclivities inaccessible to the dung cart, and ultimately for the purpose of returning the land to pasture with an improved *permanent herbage*.

On my communicating verbally with some intelligent farmers on this subject, they told me their object was not so much to grow corn and turnips on those lands as to improve the pasture, and for that reason they only put a temporary fence round such land to protect the crops upon it while under arable culture, and removed those fences when the land was seeded down, so that the sheep may have no obstruction in ranging over it at pleasure. With this view they first take a crop or two of oats after breaking up, for the purpose of rotting the turf, then bone-dust turnips eaten upon the ground by sheep, and in the following year, barley or oats with grass seeds, after which the land is thrown out to the hill pasture. The system is plausible enough, but in answer, I say, if the real object of the aration is the improvement of pasture it should not be attempted without permanent enclosure, because sheep ranging over unimproved natural pasture, having access at pleasure to herbage upon land which had been lined or bone-dusted under previous arable culture, starve themselves by nibbling upon that scanty pasture, to the neglect of their usual abundant supply of food upon the adjoining uncultivated land; and surely improved pasture within permanent enclosures can be more profitably grazed by feeding, than by store stock of any kind.*

When cold high land is broken up with the intention of improving the pasture, corn should not be sown upon it, as is usually done in the first, and sometimes second year, for the purpose of rotting the old turf, consequently destroying the natural herbage. On the contrary, that course of husbandry should be as brief as possible, for the express purpose of preserving the roots and seeds of the native plants. The turf should not be thoroughly rotted, it should only be broken and thinned, or, as it may be termed, "transplanted." Lime or bone-dust should be spread over the surface; lime in preference, where it can be had at a reasonable rate, and white clover and perennial rye-grass sown upon it. The succeeding pasturage will then be renovated, and greatly improved. I particularize those two grasses, as white clover and perennial rye-grass, of which there are many varieties, are indigenous in most places in our cold climate, and their seeds are readily procured from seedsmen, and generally at reasonable prices.

* The habit of the sheep on fresh pasture is here truly described; but we are not sure that such grass would be more profitably devoted to feeding, than to the support of store stock.—Ed.

In cases where it is desirable to grow turnips upon the land in question, that object may be attained without growing corn in the first instance. The land should be ploughed in the autumn of the first year. In the spring of the second, it should be cross-ploughed and cultivated in the usual way then limed or bone-dusted, and the turnip-seed sown, and although the crop will not generally be so good as if the turf had been completely rotted by previous corn cropping, the native grasses are not extirpated, which should be the principal consideration in the process. The turnip crop, be it great or small, should be eaten upon the ground by sheep. And in the spring of the third year the grass-seed, as before mentioned, should be sown either with or without a corn-crop, according to local circumstances. By this short course of culture, the roots of the natural grasses are not entirely destroyed, while the greater part of their seeds are preserved, and these, with the seeds sown, soon produce a thick permanent pasture.

I have been told that cold hill land, even after having been severely corn-cropped, may be clothed with good permanent herbage, by means of sowing it thick with well-selected grass-seeds, suited to the soil and climate. I much doubt it. I have never seen it effected under such circumstances, though I have seen many failures in the attempt. That suitable seeds may be selected, and may be sown, I admit; but I answer, in the words of Hotspur Percy, "Will they come?" and I will add, even suppose they do come, "Will they stay?" We know that theory is not borne out in practice, and it is idle to argue upon it. It is even with great difficulty good permanent pasture can be obtained in a few years, by sowing the best selection of grass-seeds upon old tilled land of the first quality, and in the most favoured situations. But good pasture may be obtained in one year upon old tilled land, though of inferior quality, by the process called "inoculation," that is, by transplanting good old turf in small pieces over the land. That practice, with many other improvements in husbandry, emanated from Mr. Coke's estate in Norfolk. The system which I here recommend for improving hill-pasture, is similar in effect to transplanting or inoculating, though upon a broader, ruder, and less expensive scale.

In autumn last I visited Moffat, Dumfriesshire, and in the vicinity of that place I observed a great extent of improved pasture-land reaching high up the sides of the hills, effected, as I was informed, by methods similar to what I have here before recommended. Part of those pastures had been improved several years ago. Others more recently, and some were then in progress. In the latter, so far as I saw, there did not appear to be any attempt at growing either corn or turnips. The fields are enclosed by stone-walls, as thorn hedges would not drive in such situations. The dry spots of land within the new enclosures were broken up, and cultivated in the usual way. The land was then limed, and grass seeds sown upon it, which completed the improving process. I was told the lime used was brought thirty miles, land-carriage, and the heavy expense of it, with that of the cultivation and seeding, incurred by the spirited and judicious occupiers, for the sole object of improving their pastures, without regard to corn-growing; I trust they live under liberal landlords, and have long leases. I was, however, happy to see their speculations, in so far as regards their improvement of pasture, completely answered that purpose. For within the enclosures I saw fine Galloway bullocks, and Leicesters crossed with Cheviot sheep feeding, while,

upon the unimproved land outside, the black-faced heath sheep were barely *existing*. That is an example worthy of imitation, and similar improvements may be effected in many other places, by the joint efforts of liberal landlords and spirited tenants. But no man is justified in laying out money in improving another person's estate, unless he is secured by a compensating lease, or remunerated in some other way.

The Moffat enclosures are generally laid out in squares, and with their stone-walls have a stiff unsightly appearance, in the landscape, being more unpleasant to the eye in picturesque scenery of undulating hill and dale. I, however, observed the woods and plantations in that district have been designed with better taste than in many other parts of Scotland. I there saw but few of those ill-judged and useless straight lines of fir plantations called "belts," dividing fields. Their timber is principally deciduous forest-trees, and those properly disposed for use and ornament. I was also delighted in that I there saw no vestiges of that horrid system of haggling, mangling, and lopping the branches of trees erroneously called "pruning." Consequently the timber is not only ornamental, but in a vigorous thriving state, and when arrived at maturity, felled for use, such trees will be found proportionally more valuable to the proprietor, because they will be sound timber; whereas the mangled trees, with the stem bark healed over their wounds, prove deceptive when taken down, and when cut up and converted, are found of little value.

From this digression I again revert to the enclosures, and remark that it is not necessary the fences of fields should be carried in straight lines, nor the fields formed in squares, when not intended for arable culture. The principal considerations in enclosing land for permanent pasture, should be a regular and plentiful supply of water, shelter, and shade; to these may be added picturesque beauty. These desired objects should be attained where practicable, without regard to the lines the fences may take in the accomplishment; and regard should be paid to not interrupting the sheep range on the hills.

Many sheep farms are quite destitute of permanent enclosures and improved pasture, and others have none worthy of notice, though upon most there is a capability of forming extensive improvements of the Moffat principles here described. I was quite surprised on seeing so little enclosed pasture in some of the pastoral districts in the south of Scotland; the more so as the verdant hills and valleys, with the classic streams of those districts, are quite calculated for such improvement, and the land generally occupied by a most respectable, intelligent, and enterprising body of farmers. On making inquiry on the subject, I was informed, the stock farms there are frequently let upon nine years' leases, or some other short term; and the tenants, although they had great confidence in their landlords, did not think themselves justified in expending much money in such necessary improvements under their short tenures. But all with whom I conversed on that matter, appeared extremely desirous of obtaining an extension of improved permanent pasture. In such cases, the expenses should surely be borne by the landlords, who would of course fix the rents proportionate to their outlay, and they could not possibly make a more profitable investment. But, unfortunately, in the districts to which I allude, the great and necessary stimulant in such improvements can only be obtained at present at an extravagant expense. Lime is there brought a great distance by

land-carriage, sometimes over hilly bad roads. One highly respectable farmer told me, he brought his lime for laying on his lands thirty-three or thirty-four miles, and that his horses and carts were three days in completing their journeys. The expense which occupiers are thus put to, for an article indispensably necessary in good cultivation, is tantamount to a prohibition to improvement in places so situated; yet there is great facility in laying a railroad from the centre of the district to which I allude, to communicate from thence through the lime and coal fields to Edinburgh and the port of Leith, by which the transit would be greatly expedited, and expense of carriage much reduced, in corn, wool, coal, lime, bone-dust, iron, timber, slate, and various other heavy articles of produce and commerce. It surely would be greatly to the advantage of the great landholders in this district to promote that undertaking, and, in so doing, they would not only benefit themselves and their tenantry, but confer an indelible boon upon their country.

This is no chimerical scheme; the advantages to be derived are so obvious, there can be no doubt it will be carried into effect by some means, and that at no distant period. But it is most desirable the landed interest should take the lead in this instance. It would appear the members of that great interest are either over remiss, or less clear-sighted in their own concerns, if not biassed by erroneous principles, than the manufacturing and commercial interests. For nearly all great national improvements are effected when these two interests preponderate; and, let it be observed, those two are now flourishing while agriculture languishes, all parties having now free scope for exertion. It is true, we have seen the reverse, but, let it be borne in mind, farming prosperity was only temporary; it arose from fictitious causes, and soon vanished, as I have shewn. It ought in future to be founded upon sounder principles. F. B.

SALE OF STOCK, AT FIRBY, NEAR MALTON.

The sale of the valuable short-horned stock of the Rev. Thomas Harrison, of Firby, near Malton, according to announcement, took place on Wednesday last, April 26, under the able conducting of Mr. Boulton, of Doncaster. From the acknowledged superiority of the stock, considerable interest was created; and the day fortunately being favourable, there was a very numerous attendance of gentlemen and breeders, many of whom had come from a considerable distance. The following is the result of the sale:—

cows, &c.		gs.
Bobtail, roan, by Kirkharle, dam by Baronet, grandam by Duke.—Traveller, 7 yrs. old (bought by Mr. Allen)		24
Beppo, roan, by Kirkharle, dam by Cleveland, grandam by Duke of Yarborough, 6 yrs. old (Mr. Thompson)		21
Cremona, red and white, by Merrington, dam by Fitz-Remus, grandam by Cato, 6 yrs. old (Mr. Allen)		16
Dahlia, roan, bought at the sale of Mr. Deighton, of Thickly, near Darlington, 6 yrs. old (Mr. Edge)		19
Chauntress, red and white, by Miracle, out of Cremona, by Merrington, 5 yrs. old (Lord Huntingfield)		45
Cassandra, roan, by Miracle, out of Garland, by Matchem, grandam by Fitz-Remus, 5 yrs. old (Mr. Edge)		50

Catalani, red and white, by Miracle, out of Cremona, by Merrington, 4 yrs. old (Mr. Wentworth)		47
Bellissima, roan, by Sir Charles, dam by Kirkharle, grandam by Cleveland, 4 yrs. old (Mr. Childers)		31
Daffodil, yellow and white, by a son of Cheviot, out of a Guernsey cow, 4 yrs. old (Mr. Jackson)		12
Beatrice, roan, by Sir Charles, out of Bobtail, by Kirkharle, 5 yrs. old (Mr. G. Swann)		13
Ruby, red, by a son of Cheviot, dam by Mortimer, 3 yrs. old (Mr. Jackson)		13
Angelica, red and white, by a son of Shylock, dam by Cheviot, out of a sister to Don Juan, 3 yrs. old (Lord Huntingfield)		16
Cascarella, roan, by a son of Cheviot, out of Cassandra, by Miracle, 3 yrs. old (Mr. Wentworth)		20
Caradori, red and white, own sister to Catalani, by Miracle, out of Cremona, 3 yrs. old (Mr. Wentworth)		19
Dryad, roan, by Algernon, out of Dahlia (lot 4) 2 yrs. old (Mr. Edge)		50
Calypso, red and white, by Algernon, out of Chauntress, by Miracle, 2 yrs. old (Earl Spencer)		10
Nerissa, roan, by the Chief, out of Netherby, by Cupid, grandam Moss Rose, by Barmpton, 2 yrs. old (Mr. Edge)		37
Calista, roan, sister to Calypso, by Algernon, out of Chauntress, by Miracle, 1 yr. old (Capt. Shaw)		50
Cinderella, red and white, by Algernon out of Catalani, by Miracle, 1 yr. old (Earl Spencer)		15½
Clara, white, by Algernon, out of Cassandra, by Miracle, 1 yr. old, (Mr. Henderson)		21
Bella, white, by Boldon, dam by Sir Charles, out of a Kirkharle cow, 1 yr. old (Mr. Carter)		20
Red Rose, red, by Premium, out of Beppo, by Kirkharle, 1 yr. old (Mr. Thompson)		12
Rosebud, red, by Algernon, out of Ruby, by a son of Cheviot, 11 months old, (Earl Spencer)		13
Roan Heifer Calf, by Algernon, out of Cassandra, by Miracle, 6 months old (Capt. Shaw)		19
Roan Heifer Calf, by Algernon, out of Bellissima, by Sir Charles, 6 months old (Capt. Shaw)		25
Roan Heifer Calf, by Algernon, out of Catalani, by Miracle, 4 months old (Capt. Shaw)		36
Roan Heifer Calf, by Algernon, out of Beppo, by Kirkharle, 4 months old, (Mr. Wentworth)		22

BULLS.

Algernon, roan, by Cheviot, out of Larkspur, by Hotspur, grandam own sister to the sire of Lord Spencer's celebrated bull, Firby, 6 yrs. old (Lord Exeter)		65
Druid, roan, by Algernon, out of Dahlia (lot 4), 1 yr. old (Lord Huntingfield)		34
Harry, roan, by Algernon, out of Bobtail, by Kirkharle, 10 months old (Mr. Allen)		23
Chancer, red and white, bred by Lord Spencer, by Wiseton, out of Poetry, by Firby, 9 months old (Mr. Thompson)		15
Corelli, red and white, by Algernon, out of Chauntress, by Miracle, 5 months old (Lord Huntingfield)		35
Roan, by Algernon, out of Angelica, by a son of Shylock, 3 months old (Mr. Childers)		20
Roan, by Algernon, out of Cascarella, by a son of Cheviot, 6 weeks old (Mr. Wentworth)		16
Red and White, by Algernon, out of Caradori, by Miracle, calved March 7 (Mr. Wentworth)		5

PHOSPHORIC ACID—BONE MANURE.

DEAR SIR,—A correspondent in the *Mark Lane Express* of last week, requires information with respect to the obtaining phosphoric acid at a cheap price, so as to supersede the use of bones as a manure. Should you not receive an answer more to the purpose than this, I will thank you to insert it. Phosphoric acid can only be obtained by burning phosphorus in oxygen gas, and the cheapest mode of making phosphorus is by the combustion of bones; 100 parts of which contain 80 of earth and 20 of acid, so that nothing can be gained. Phosphate of lime, if it could be found so as to be available to the farmer, would be invaluable. Whether it exists in England I know not, but in Spain there are entire mountains of it: it is compounded of phosphoric acid 41 parts, lime 59. When animal bones are divested of their oil and jelly, the earth which remains is chiefly lime united with phosphoric acid. It is worthy of notice, that phosphate of lime is found in abundance also in milk. This seems to indicate, as Fourcroy beautifully remarks, "that nature thought fit to place in the first nourishment of animals, a quantity of osseous matter, with a view to the necessary celerity of the formation and growth of the bones in the earliest stage of their lives." This fact is probably unknown to some who study natural history, and is one of the numerous instances of the beneficence of the Creator, exemplified by the science of chemistry. The more we know of the minutie of the matter, and of the laws by which it is governed, the greater occasion shall we have to admire the excellence of contrivance, and the benevolence of intention of the Omnipotent Artificer. Let the advocatos for chance consider the aforesaid fact, and say, if they can, that phosphate of lime is found in animal milk, in consequence of *fatality*, and that it occurs by *accident* where it performs so important an office in the animal economy. For the above remark I am indebted to Parkes's *Chemical Catchism*, a work, which I recommend to the perusal of every gentleman, farmer, manufacturer, and mechanic. I remain Sir, your friend,

PHILALETHES.

THE DISEASE OF THE LARCH.

It has been found by experience that *elevated* situations are better for the larch than *low*, that *declivities* were better than *flats*; that 15 or 16 feet was the best distance at which larch plants should be allowed to remain asunder, and that they should be planted in autumn in preference to spring.

All observations incline us to think that the cause of the diseases which attack the larches must be sought for in some difference existing in the physical nature or in the culture of our trees. We do not think that the nature of the soil should have a very marked influence, for the larch is not particular about the soil where it grows, and seems only to fear extremes, which are fortunately rare. Marshy grounds are the only ones it essentially dreads, and it is never found in that kind of soil. It may grow in a soil composed of stones and gravel, but it does not flourish in too strong a soil, and amongst too hard pebbles. Its roots find too little room for expansion in them, and the trunk is always stunted. The elevation above the level of the sea may have more influence on the phenomena than the soil, but only in an indirect manner. Thus we might mention the existence of beautiful plantations of larches, at very different heights, provided other circumstances com-

pensated for these. Monsieur de Charpenter (the illustrious Geologist, who has so well described the Pyrenees) mentions with admiration the larch forests of Moritzbourg and of Tharanz, near Dresden, which are only 238 feet above the level of the sea, and which, at 40 or 50 years old, rival in size the most beautiful forests in the Valais. There may be seen in the Vosges, and in some villages of Dauphny forests of larches (sown in the Vosges, but spontaneous in Dauphny), flourishing at very trifling heights; but larches, there can be no doubt, can be grown at a lower height in those climates where the air is pure and the atmosphere less damp than in England.

Amongst all the general circumstances which have an effect on vegetation, that which appears most necessary to the larch is, that it have at the same time its roots in a soil habitually damp, and its top exposed to the direct rays of the sun, so that the evaporation of water and the decomposition of carbonic acid may go on with activity.

Larches generally thrive on the declivities of mountains, *seldom on flat places*, because on declivities there is always a little dampness in the earth coming from the summit, and at the same time the trees, on account of the inequality of their bases, have more space at their tops, and are better exposed to the light; whereas flat places are often too dry, and the trees, being all of the same height, overshadow each other. Amongst declivities, those which are connected with summits covered with perpetual snow are those where larches grow best, because there they grow slightly, and continually watered, and at the same time their top well exposed to the sun. Declivities, and, in general, elevated countries, suit larches best, because the action of the light is more intense than in low countries, yet the larch succeeds well enough in countries only a little elevated above the level of the sea, provided the atmosphere be not obscured by fogs and constant cloudiness.

If the larch seems to like to have its root in a soil moderately damp, it likes also to avoid the dampness of the atmosphere. On that account it grows ill in valleys, particularly near lakes and the rivers. The constant dryness of the air of the Alps is also one of the causes which makes it prosper there. The dampness of the air tends to diminish the evaporation of the leaves so necessary to that tree.

The want of a sufficiently intense light, owing to the obliquity of the solar rays and to the opacity of the atmosphere, and the over damp state of the latter,—all appear permanent causes which in our climate most predispose the larches to a state of watery plethora, which is probably the cause of the destruction remarked in the heart of the wood. This cause has little or no effect during the *youth* of the tree, because then its vegetation is vigorous; but it goes on increasing until the tree arrives at the age when all trees begin to be feeble. It is well known that the larch grows better in those parts exposed to the north than to the south. This probably arises from the *irregularity of our spring*, which causes the buds of the larches to be precocious in the southern declivities, and consequently they are frequently frozen: this happens to our walnut trees, which, although they are affected by the frost, grow better on the northern declivities than on the southern, where their being too forward are frozen. *It is also too probable that our plantations of larches are too close.* Air and light would penetrate better into the forests, and would correct the defects which may be attributed to the want of evaporation, and the decomposition of the carbonic acid. We should not certainly place the young and yet small

larches at the distance of *ten feet*, but we should follow the method employed in the forests of pitch pines, to keep them close in their youth, then to thin them annually and gradually so as to bring them to the distance of ten feet when twenty years old. This thinning of the trees appears to be a most important point; possibly, considering our atmospheric circumstances, the trees should be at greater distance, though they are generally at considerably less. This may be easily tried on a small scale, and experience will shew if the theory be just or not. There is a disease in the larch where you will find the whole foliage covered with a *whitish* substance even to the very points of the leaves, or needles, as they are commonly termed. When the trees infected shed their foliage, they appear in winter all covered with blackish strands, both on the trunk and branches, especially on the south side, as the rains are more severe from that quarter than any other. Now, whether this is a disease in the sap of the tree, or an insect, is not yet decided. Our opinion is, and has long been, that it is an insect of the Aphid tribe. These insects on the foliage, by obstructing the due performance of the ordinary functions of vegetation, must induce the stunted growth and narrowness of annual deposit; but we have not found that such a partial obstruction of growth as proceeds from the attacks of insects on the foliage has been so productive of that very alarming and hidden disease or decay which takes place in the interior of the tree; nor is it certain whether such insects abounding are not more the effects of locality, than symptomatic of approaching decay in the plant. The rot in larch may be considered the most fatal to which that tree is liable in this country.

From long experience and observation, strengthened by the results of numerous inquiries, we are justified in offering as our decided opinion, that the decayed roots of the Scots firs in the soil, communicates something deadly to the absorbent root-vessels of the larch, of whatever nature the soil or subsoil may be, and that that substance, whatever it is, is infinitely more pernicious in a state of decay than when fresh and performing their ordinary functions. The primary cause of the rot no doubt exists in the soil. Other diseases to which this tree is liable with us, as Mens. de Condolle, of Geneva, the most eminent physiologist in Europe, very justly observes, proceeds from the nature of our climate.

AN ARBORICULTURIST.

Hafod.

FAILURE OF THE POTATO CROP.

[The following paper was transmitted last autumn to the Highland and Agricultural Society of Scotland, and has been so far approved as to procure the author the best thanks of the Directors, with an intimation that it will be noticed in the Society's Records. It is now presented to the public, in the hope that it may promote discussion among practical farmers, and lead some who have better opportunities of observation to turn their attention more closely than they have yet done, to a subject that involves so deeply the public interest.]—*Perth Courier*.

ON THE CAUSES OF THE FAILURE OF THE POTATO CROP, AND SUGGESTIONS FOR ITS REMEDY.

The causes in general assigned for the failure of the potatoe crop, are so various and contradictory, that little confidence can be placed in them as an

explanation of the phenomena. They rest upon no fixed and admitted principles, and are at variance with every thing that is known of the laws of vegetation.

But, without pointing out and exposing those errors, into which both practical men and mere theorists have fallen in this matter, it will be better perhaps to state shortly and simply, the causes which, in our opinion, have occasioned the late failure, which, if they are admitted to be well founded, will the more clearly point out the means by which the evil may in future be prevented.

These causes I would reduce to three:—

1. Unripe, or ill-preserved Seed;
2. Late Planting;
3. Bad Manure.

To these three causes operating singly or conjoined, which is generally the case, I would ascribe the failure complained of. Unripe seed will, under all circumstances, produce a weak and sickly plant, and in many cases fail altogether. Late planting is injudicious, in as much as the potatoe is an early plant, and is liable to spontaneous germination in the house or pit, and is thus injured or greatly exhausted before the late period of the season when they are now generally planted. And, under the last head, I hold that dung, not previously prepared by fermentation, but in a wet state and fresh from the straw-yard sheds—if put into the ground in a hot season of the year, when the mould is also warm, is apt to ferment in the drill, and thereby destroy the seed plant: and this cause has a still more powerful effect upon seed that was not ripe, or that has been exhausted and softened by spontaneous germination in the house or pit.

I shall now support these suppositions by a few facts and arguments.

It may be proper to admit that there may be other causes concurring with these. There may have been something in the character of the seasons for the last few years, which were unusually hot and dry at the period when the greater portion of the potatoe crop were planted.

1. UNRIPE, OR ILL-PRESERVED SEED.—I believe it will be admitted by practical men, that for some years past, I may say from the period when this remarkable and general failure has been felt, that the seed planted was a shorter time in the ground before it was reaped, and consequently could not be so ripe as it was in former years. Potatoes, instead of being planted as formerly about the end of April, or beginning of May, have of late not been put into the ground till the beginning or even the middle of June.

Several causes, especially in the east coast of Scotland, have led to this change of system. It was found at first, that late planting increased both the size of the potatoe and the weight of the crop; and though the quality was generally allowed to be deteriorated, for they were softer, or more watery and waxy, yet their size and even waxiness recommended them to the London market, for which they were principally raised. The delay in planting was therefore, at first, encouraged by the hope of greater profit, and also by affording them more time for preparing the ground, and for planting a greater breadth of crop, than they could have done, with the same means, at an earlier period of the season. This feeling and practice was also not a little strengthened by an opinion very generally entertained, that potatoes lifted rather green, or before they were fully ripe, formed the best seed.

But not only have potatoes been later in being planted than they were 26 years ago, but they have

also been much earlier taken from the ground.—Whenever wheat is to be sown after potatoes, it is desirable that they should be lifted as early as possible, that the wheat seed may be put into the ground in proper time, before the rains, snows, and frosts of winter set in. Accordingly, every one must have seen potatoes raised and put into the pits for the winter, when the *shaws* or stalks were still green, and the roots were still in a vigorous state of vegetation. In former times, nobody thought of lifting their potatoes till the *shaws* were completely withered and dead, by natural decay or frost, and thereby gave evidence that all vegetation had ceased.

Now from these causes, which, so far as we can learn, have been very general, we maintain that the potatoes used as seed have not been allowed sufficient time in the ground for ripening, and therefore were unfit for seed. Nothing can be more erroneous than to suppose that any fruit not fully ripe, is fit for seed. How does *nature* act in such a case? Does she sow unripe or green seed? *Never*. It is allowed to drop from the tree, or from the parent stem, fully ripe; and her roots are preserved in the ground without being taken up, and consequently are not prevented from germinating at the season appointed for them. Accordingly they never fail, except in seasons of extraordinary severity, that occur only at the distance of centuries.

It may be alleged that the cerealia—that is wheat, barley, and oats, if allowed to be too ripe, before they are cut and housed, lose both in quality and quantity. But this, though admitted, does not affect the position I maintain. These grains, in particular calm seasons, will, if allowed, remain on the stalk till they lose both in quality and weight: yet the first autumnal wind will scatter them, or the rains will cause them to drop from the stalk: and when so sown upon the ground, do they ever fail to germinate, even though no covering of earth be thrown over them. But suppose you were to strip the same kind of grain in a green or half green state, by some mechanical process, would they germinate in the same number and with the same vigour? Not one in ten thousand would do so; but those that do germinate will, if examined, be found to have been ripe. We hold, therefore, that unripe seed will not germinate; and that if half-ripe only, that it is more liable to be injured in the ground, and will produce only a weak and sickly plant.

Now, corn is no more a native of this country than the potato; and both have been long enough familiarized to the soil and climate, and have flourished in so vigorous a state, as to warrant us in holding them to be perfectly naturalized, and requiring only the same treatment as indigenous plants that require culture for their full development and produce. It is idle, therefore, to talk of going to the countries where they are indigenous, to get new plants for seed in order to restore their fruitfulness, as if our present potatoes were worn out and exhausted. A change of seed from one district and soil to another, has been found to be attended with beneficial results. But the plants that have been long naturalized to the soil and climate of this country, have been improved instead of being deteriorated, and are the best for seed that can be procured.

This position will, I suppose, be called in question by many. It seems to be an opinion more generally entertained than I was once aware of, that the late failure has arisen from a natural and general decay of the potato, throughout the country; and that its productive power can be restored only by procuring seed from those countries where the plant is indigenous, or by raising it from the plum or apple

of the potato, which is its natural seed. This opinion I hold to be ill grounded. Good potatoes may indeed be produced by these methods, which, after having been improved during three years in this country, will form excellent seed. But if they are subjected to late planting, and to the other causes that have been mentioned as operating in producing the late failure, they will in a year or two be reduced to the same state, and produce the same results. Accordingly seed raised from the plum within these few years, has, in Galloway and other parts, been found to fail as signally as any other. Had the late failure, indeed, been occasioned by a general and gradual decay of the potato, to which some maintain that all bulbs or tubers are liable as seed, unless renewed by raising them from the natural seed produced by the flower of the plant, then the failure also would have been gradual and general, and the quality of the potato would have been deteriorating from year to year. But this has not been the case. The failure has been only partial; and nothing can be discovered on examining the potatoes now reared that indicate any deterioration. They are as firm and good every way, as they ever were at any former period. If ripe, and planted at the proper season, and with good manure, they will germinate as certainly and as vigorously, and be as productive as ever.

As far as regards the seed, therefore, all that is required is that it be fully ripe and properly preserved. Now if it can be shown, that throughout the country, and especially in Perthshire and those districts, where the failure has been most extensively and deeply felt, that the crop has been allowed as long a time in the ground, at the proper season for growing and ripening, as in former years when a failure in the produce was unknown, then we admit that all our objections and reasonings on this point fall to the ground. But can this be maintained? I appeal to all practical men, and call upon them to say, whether the potato crop has not been both later in being put into the ground, and also taken up at an earlier period, and consequently could not have the same time for arriving at that state of full maturity, which it reached in former years, when a failure in this crop was unknown. But unripe seed I consider to be only one of the causes of the late failure.

(To be continued in our next.)

TO THE EDITOR OF THE COUNTY NEWSPAPER.

SIR,—In December last the highest weekly average price of wheat was 61s. 9d.; in the week ending the 11th April inst. the average is 55s. 5d.—a difference of 6s. 4d. per quarter, or 31s. 8d. per load, of 40 bushels; add (a very moderate claim) at least 2s. per quarter more for *quality*, after the drying and searching winds of March, the *real* difference is 3s. 4d. per quarter, or 41s. 3d. per load. Yet it is a fact, disgraceful to our authorities, that bread was at 16d. per gallon only at the first named period, and 16d. at the last named! I will not mince the matter, but declare this to be as gross an imposition as ever practised on the public, and the most cruel extortion on the “*honoured starving*” who obtains, from the poor law commissioners, the enviable appellation of “*independent labourer*,” by endeavouring to keep the terrestrial and celestial attributes of seven or eight human beings together on 9s. per week!

Let the following be taken as a true sample of the

ifference paid by the consumer for the produce of 40 bushels of wheat, and the price realized by the grower:—

A load (40 bushels) of wheat will make 7	
bags, or 35 bushels, or 280 gallons of	
bread, which, at 16d. per gallon, is . .	£18 13 4
Cost price of wheat at 5s. 5d. per qr. .	13 17 1

Difference	4 16 3
------------------	--------

But will you allow nothing for expenses of grinding, baking, &c., cries the miller and baker? *Not one farthing*, I answer; for I will prove the offal of a load of wheat, and the increase in wetting the flour, to pay well both the grinding and baking it into bread. So that here is considerably more than "one-third" *clear profit*: this comes up pretty near to the muck of the profit Peel's bill made upon the old rags—is it any wonder then, screwed between both, there exists so much distress in the middle classes, and such misery in the cottage? I know the millers and bakers will plead "bad debts" as an excuse; but "bad debts" were as liable to be contracted in December last as now, and were then equally ridiculous to plead in support of imposition. If I sell to two millers a load of wheat each at 13*l.*, what would the one think if I charged him 26*l.*, because the other had run away? Such trash ought not, and, I trust, will not weigh with the public. I could say much more, but as some of the cloth may take up the gauntlet, I shall reserve a little ammunition for a second fire, should it be provoked. Suffice it to say at present, that if parish unions can be supplied with bread, as supplied in this union, at 13½*d.* per gallon, and that drawn long distances at considerable expense, it is a shame that the man, endeavouring under the severest privations to keep aloof from the parish and the workhouse, should be so extravagantly charged. I am, &c.

LIVE AND LET LIVE.

Whitchurch, April 27.

VEGETABLE MANURE.

The principal vegetable substances, employed as a manure, in their separate state, are, rape-cake, oil-cake, malt-dust, sea-weed, peat, or turf, in a decomposing state, and the ashes of several plants. Rape-cake is the husk and refuse of the rape, after the oil has been expressed. It is reduced to a coarse powder, and in this state it is scattered upon the surface, and lightly covered, when it attracts moisture, and readily decomposes. It is sometimes strewed upon young clovers, or it is sown with turnips, and similar plants, at the same time with the seeds, or it is spread upon the tilled surface of the land, before the seeds are sown. The quantity applied is ten or twelve cwt. to the acre, and sometimes a smaller quantity is used. As it readily attracts moisture, and is decomposed, it should be kept dry, and used in its recent state. It is better suited to land that is clayey, and somewhat moist, than to that which is very dry and light. With the Flemings, this substance is a favourite manure; and they use, also, for the same purpose, the refuse of the poppy-seed, after the oil has been expressed from it. They apply these substances in larger quantity than is practised in England. They dissolve, also, the rape-cake in urine, and thus form a manure of the richest kind. Oil-cake is a similar substance, but is the produce of the seed of the flax, after the expression of the oil. It forms, likewise, a very rich manure; but it is too valuable to be

much used for that purpose. It is employed, as we shall afterwards see, for the feeding of animals. Malt-dust is used for feeding: but it is employed, also, as a manure. It consists of the radicle of the seed, rubbed from the grain, after malting. It is employed at the rate of from 40 to 60 bushels to the acre. Sea-weed, consisting of different species of fucus, and other marine plants, is greatly used upon the sea-coasts of Great Britain and Ireland, as a manure. It is very transient in its effects; but it is, nevertheless, of much value, in situations where it can be obtained. The most common method of using it is, to convey it directly to the land, and apply it fresh, as a top-dressing to the growing crops. If left in a heap by itself, its more soluble parts are exhaled, and a dry, fibrous matter, alone, remains. If it is not applied, therefore, in its recent state, it should be formed into a compost with dung, or with a mixture of dung and earth. Sea-weed is chiefly valuable for light and dry soils. It is of less comparative value for the stiffer clays; and, hence, when a farm has access to it, it is better to apply the sea-weed to the lighter, and the dung to the stiffer, soils upon the farm. Peat is a substance which may be used as a manure; but, unless freed of its acid principle, it may remain for years, exposed to water and air, without undergoing decomposition, in which state it can afford no nourishment to plants. Pure peat, therefore, should be made to undergo decomposition before it is applied to the soil. This may be done by long exposure to the air, or by mixing it with quick-lime, which decomposes its woody fibre, and forms a kind of compost, which, however, is not greatly valued. The woody fibre of peat may be better decomposed by mixing it with dung, or any animal matter. For this purpose, the peat may be led directly to the farm-yard, and spread upon the heap of dung, so as to be mixed equally with it. This is the most easy method of decomposing peat; but care is to be taken, not to supply it in so large a quantity as to injure the quality of the manure. Peat, too, may be decomposed, by mixing it in alternate layers with fresh dung in a fermenting state, the peat being first partially freed of its moisture, by being for some time exposed to the air. The quantity of dung should be nearly equal to that of the peat; and when the fermentation has arrived at the degree of blood-heat, the mass should be turned over and formed into another heap; and this should, in like manner, be turned before being used. This species of compost, however, often disappoints expectation, perhaps, from the peat still retaining some principles unfavourable to vegetation. The ashes of wood, and all vegetables, may be used as manure; but the effects of these are, for the most part, not very great. By burning the plants, the carbonaceous matter, indeed, remains, but the other enriching parts of the substance are expelled. In Holland and the low countries, the ashes of peat are extensively employed; but the peculiar value of these ashes appears to be derived from mineral impregnation. The most valued of them are taken from the low marshes of Holland, which are covered during the winter season with brackish water, and they are accordingly much impregnated with saline matter. They are sown upon the surface of growing crops of different kinds; but they are found of peculiar efficacy in promoting the growth of clover, upon the leaves of which they are strewed. They are carried far into the interior for this purpose. Some ashes, too, in England, possess similar properties; but, from the effects being evidently due to the saline matters with which they are mixed, they are rather to be regarded as mineral than as vegetable manures. Of

animal substances employed as manures, mention has been made of dung and urine. The first is generally mixed with ligneous fibre, and so, also, in the common practice of this country, is the latter, though urine, it has been said, may be applied in its separate state. Taking into account, however, the general economy of stock, and the farm-yard, in this country, it is not perhaps expedient, that we should adopt the practice to any great extent; yet, when any liquid manure, the excess of the cow-houses and the stables, is obtained, it may be conveniently applied to grass land, which is to be cut for hay or green forage. Of excrementitious animal matter, applied in its unmixed state, one of the most useful is night-soil, a substance which is very liable to decompose. It abounds in matters composed of carbon, hydrogen, oxygen, and nitrogen, and, whether recent or fermented, supplies abundantly the food of plants. In Flanders, and all parts of the low countries, the attention paid to night-soil, as a manure, is very great, and it is employed in different states of fermentation, according to the crops to which it is to be applied. The disagreeable odour of this substance may be destroyed by mixing it with quick-lime. When it is exposed to the atmosphere, and the layers are strewn over with lime, it soon dries, and in this state is easily pulverized. It then forms one of that valuable class of manures, which may be deposited in the ground at the same time with the seed. Of excrementitious animal matter, too, the dung of birds is a powerful manure, though usually obtained in quantities too small to render it an object of much importance. The most generally employed is that of pigeons and domestic fowls. It should be spread upon the surface of land in tillage, and slightly covered. It may be reduced, also, to powder, and applied in this state in different ways.—*Irish Farmer's and Gardener's Magazine.*

THE FLINTSHIRE AGRICULTURAL SOCIETY.

Landlords are mentally blind to their duty and interest who are lukewarm to such objects as the improvement of *our soil and its productions* as must prove beneficial to all classes alike. On the score of interest they ought to support agriculture, for what a pleasant prospect it is for a man to see his property improving, and to transmit an improved inheritance to his children! Tenants do not seem to be aware of the benefits that arise from frequent intercourse with each other, and the good results that follow the inspection of each other's stock. Our annual vast-increasing population also requires the cultivators of the soil to exert their energies, and by the union of talent and industry to cultivate the land on the best system. Manufacturers labour hard to produce cheap wares, therefore they have a right to expect in return the utmost improvement of the soil and its productions, to produce the necessities of life in abundance; thus, the interest and duty of the landlord, the tenant, and the public run together.

Cattle Shows are productive of a spirit of emulation which leads to the best results. The objects of such societies are to draw together the best breeds of cattle, thus enabling the practical farmer to see at one view the various breeds, and to select that stock best adapted to his farm; at home he fancies his own stock to be perfect, he goes abroad and his errors are set right. Another object of such societies is to assemble large bodies of practical farmers to

discuss agricultural matters in a plain and friendly manner. On these occasions all classes are brought together, and an enlightened interchange of sentiment takes place, pointing out defects in our management, and hinting improvements. Such assemblages draw the tie of friendship closer between landlord and tenant, and the labourer, and show each class how much they depend on each other's prosperity.

The intercourse of farmers at agricultural meetings would not only be the means of improving the various kinds of stock and promoting more correct views of rural economy, but it would also subdue those prejudices which are entertained by many in relation to every thing new, or with which they are unacquainted. It is to be lamented that while those engaged in the arts and manufactures are prompt to avail themselves of every intention and device that will facilitate their labours or promote their interest, the cultivators of the soil are *too apt to be jealous of innovations upon old practices, and are remarkable for the reluctance with which they adopt improvements.* This is unquestionably owing, in a great measure, to their retired habits, and to the want of that liberal intercourse with each other which agricultural meetings are so well calculated to produce. It will be found that a proper culture is as beneficial to the intellect as it is to the farm, and that the prosperity as well as the respectability of the farmer will be in a direct ratio with his intelligence.

Many landowners have stood aloof from this society, whilst others have been very negligent in the payment of their subscriptions; extensive land agents have withdrawn their subscriptions—thus throwing a damper on agricultural improvement which most rational people consider it the *particular duty of such men to promote*, whilst many of the substantial farmers have not afforded that support that might be expected—*poor narrow-minded men!* These facts combined do not promise that agriculture in Wales will be brought to that perfection, that union and talent, combined with a fertile soil advantageously situated, are capable of producing. However, the exhibitions that have for years taken place will not be without their use—the dormant energies of the cultivators of the soil are beginning to appear, which a little encouragement and emulation at public meetings would soon bring into full play. The grand requisite is to induce farmers to examine and reflect on their neighbour's stock and management, to compare notes, and converse frequently and familiarly on rural subjects; any means that will effect that object will answer the end as well as Agricultural Societies, and will amply repay the exertions of the intelligent and industrious farmer.

CYMRO.

Mold.

POTATOE CROP IN SCOTLAND.—We regret to find that some very ominous indications have already appeared of the return of that disease in the young plants which destroyed so great a portion of the potatoe crop last year; and farmers and gardeners should therefore be taking vigorous measures to arrest its progress, or prevent its continuance in future years. In the beginning of February a gentleman commenced planting some of the early kind in the neighbourhood of Ayr, and has since continued planting a few each week when the weather permitted, but a few days since he discovered that all the different sorts of cut seed were in a disordered state, and the greater part of them totally destroyed. This appeared in all the different situations in which they were deposited—moss, clay, and sand. But

none of the uncut seeds were diseased, except those of which the skins had been injured previously to being planted. It would be advisable, therefore, to plant whole potatoes to prevent the spread of this disease. The settings have been discovered to be in the same sad state in the neighbourhood of Kirkcudbright and Brogue. To obviate these serious evils, it is recommended to avoid cutting altogether, and plant whole potatoes, and whether cut or not, to sprinkle a little lime upon them at the time of planting. It will be necessary also to cultivate the potatoe in future more from seed than from settings, and with this view the potatoe apple should be gathered and preserved.—*Abridged from the Scotsman.*

THE PORK TRADE AT CINCINNATI—UNITED STATES.

Much has been said about the pork market of Cincinnati, and the mode of carrying on the business. Few, however, are aware of the aggregate value of the pork exported from this city. The amount slaughtered here, although very great, is not more than two-thirds of the total amount exported. Some view of this trade may be gathered from the following facts:—

In the winter of 1833 and 1834, 123,000 hogs were slaughtered in Cincinnati; in 1834 and 1835, about 160,000; in 1835 and 1836, not more than 80,000 or 90,000. Comparing the amount of the last two seasons, it will be perceived that the High price of pork in 1836 was not fictitious, but arose out of the actual diminution of supply.

In the present winter the number of hogs slaughtered at Cincinnati is	105,000
The number brought in waggons estimated at	20,000
From information, as to various points on the canal, it is supposed there cannot be less than 55,000 put up in other places, which must be exported from Cincinnati.	55,000
Total(hogs)	180,000

The average weight of the hogs this season is supposed to be 220lbs., and the average price 7 cents per lb., making 15 dollars 40 cents. for each hog.

The first cost of the hogs is 2,772,000 dollars.

To this must be added, for cooperage, salt, and packing, 300,000 dollars for barrelled pork, and 100,000 for lard. The total prime cost of pork, lard, and hams, exported from Cincinnati, exceeds three millions of dollars.

It is worth while to look for a moment at the mode in which the proceeds are distributed in the community. In the first instance, four-fifths of the prime cost of pork are paid to the farmers. Among the raisers of pork, however, there are generally two classes of persons—the grower and the fatter. With wealthy farmers these classes are often united, but they are also frequently separated. Thus, a small farmer raises a few hogs, which, while young and poor, are sold to one who fats them for the market. Both processes are profitable. Another portion of the proceeds, near 200,000 dollars, goes to the coopers, another to the salt manufacturers, and another to the packers. The merchants' profits are the excess of price paid in a foreign market, and is made upon the employment of his capital, united to his skill and enterprise.

BONE MANURE.

As some of your readers may be desirous, personally, to test the efficacy of Bone Manure, and yet be hindered by not being provided with the requisite drill, I have thrown a few hints together—the result of my own experience, and of information derived from good practical men—which may tend to encourage them in proving the utility of this valuable manure.

Bone manure should be placed within about two inches of the surface; and owing to the small quantity used per acre, the seed should be brought as near to it as possible, without immediate contact, which it is better to avoid. There is, of course, no mode so eligible to effect this, as a drill, working clean and well, and depositing from separate hoppers, the dust and the seed: but experience has proved, that a result closely approximating to this, may be obtained by very simple means.

The soil being first reduced to its proper state for the reception of the turnip crop, in lieu of a last ploughing, let the land be laid up in banks; the bone manure cast on by the land broad-casts, followed by the roller, which will, of course, crumble in sufficient earth to cover the manure, without, by any means obliterating the furrow: then run a single chep-drill, with the turnip-seed in the furrow, and cover the whole with a light harrow.

Some recommend depositing the bone-dust with a shake-box; and one farmer, of much experience in the use of bone manure, recommended me simply to sow dust and seed broad-cast, and then cover the seeds, and lay the whole into furrow by the operation of the plough afterwards: but wherever it is intended to use bones extensively, nothing is so well as to have a proper drill for the purpose, which will repay its first cost again and again. My observations, therefore, are intended for those only who wish to make a first trial, and are unprovided with more efficacious means.

The value of an article can always be found by its extended use: and if we take this as our criterion, I know not where we can find any article, the use of which has become so extensive, or that has so increased in price, within the last twenty years. Before that time, bones were comparatively valueless; being used only in the manufacture of porcelain, smelling salts, ivory black, &c., and brought only a trifling price per ton. They are now imported from all quarters; in many places, prohibitions and duties are levied, to prevent their export; (see France and Belgium;) and they obtain about four times the price they did formerly; and yet, at the enhanced value, the use and manufacture of bone manure has increased, and continues to increase in all quarters.

Its price at present in the north, where its use is chiefly known, is, I believe, 26s. per quarter the fine, and 23s. the coarse: and it is still the cheapest manure for turnips that can be found, as it bears mixing, in moderate proportions, with good vegetable mould, densenham ashes, soot, fine cinders, &c. Care should, however, be taken, that this admixture is not already done to your land; for which your best, and indeed only, security, is the respectability of the merchant.

To this cause is frequently to be attributed the cases of failure we sometimes meet with, although this again may be caused by the soil not being suitable, putting the manure too deep, or uncongenial seasons.

Frequently, bones are used too sparingly, to allow us to expect to see much of their effects after the first year; but even 16 bushels per acre have been evident not only in the turnip, but as well in the

barley, and seeds succeeding; and if the price did not prevent the application in large quantities, as was the case in the first introduction of this manure (40 and 50 bushels per acre and upwards), we should perceive a lasting benefit derived to the land from a liberal use of this the most lasting manure known.—*Canterbury Journal*.

Ramsgate, 25th April.

WHARFDALE AGRICULTURAL MEETING.

This society held its annual meeting at Otley, on Friday the 14th April; and gratifying as other meetings of this society have been to the numerous spectators generally assembled on such occasions, the present, in point of respectability and numbers, in regard to stock shewn, and the increased number of competitors for the ploughing matches, was never equalled at any previous period. The day, contrary to expectation, was very fine, and early in the morning thousands of persons were seen entering the town in all directions. The ploughing fields were in the township of Menston, nearly two miles from Otley, a greater distance than was desirable; but at this time of the year good ploughing fields near the town cannot be obtained without the greatest difficulty. There were four ploughing matches and thirty-eight competitors. The ploughing was excellent, and it required great judgment and skill to award the prizes satisfactorily. But the patient investigation and minute attention of the judges, much to their credit, enabled them, in every decision they gave, as far as we have been informed, to give entire satisfaction. The stock was shown in the White Horse Yard, and although every effort was made to accommodate the spectators, it is to be regretted that it is too much confined to afford complete satisfaction to the annually increasing number of gentlemen and others who attend this meeting. Mr. Whitaker, of Greenholme, who does not contend for the premiums, sent a great number of extra stock, which was much commended by the judges, and contributed greatly to the pleasure of the spectators. Mr. Fawkes, of Farnley Hall, likewise exhibited his celebrated bull Norfolk, which was much admired.

On account of the ploughing matches being at such a distance, and from other causes, it was six o'clock before the gentlemen sat down to dinner. Godfrey Wentworth Wentworth, Esq., of Woolley Park, presided with great ability, supported by Captain Shaw, of North Cave, near Market Weighton, and the Rev. Geo. Fenton, Vicar of Royston, as vice-presidents. Many interesting speeches were made, but none went more to the heart, or met with more cordial sympathy, than the tribute of affection and respect paid by Mr. Fawkes when proposing the better health of the Rev. James Armitage Rhodes, who, we regret to say, has for some time been very unwell; a gentleman who, along with Mr. Whitaker, has for many years been the great support of the society.

In the course of the evening Mr. Fawkes stated that it was in contemplation to have two meetings in the year, and which announcement was received with great cheering. Amongst the numerous party present, we noticed Sir Edward Vavasour, Baronet, the Honourables Edwin Lascelles, Legard, Marsham; Francis Billam, Jonas Whittaker, Joshua Ingham, Timothy Horsefall, F. Gibbes, John Whitaker, — Poulds, Thos. Rawson, Woodhead, — Robson, — Hodgson, John Spence, W. F. Paley, Thomas Johnston, B. Marriner, M. Nicholson, — Garforth, — Sugden, Thos. Clifton Wilkinson, — Carr, J. Milthorp, Esquires, and many others of the greatest respectability, but whose names we are unacquainted with.

It is calculated that from 15,000 to 20,000 strangers were at this meeting.

HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

We observe with pleasure that Mr. Charles Gordon, of Drimnau, Secretary to this great national association, was on Wednesday introduced to his Majesty by Lord John Russell, Secretary of State for the Home Department, and had the honour of knighthood conferred on him by his Majesty. This is a merited mark of Royal favour due to the Society as well as to its indefatigable Secretary.

The Highland Society was instituted more than half a century ago, chiefly with a view to the improvement of the Highlands of Scotland, but the happy management of its great funds led to the extension of the original purposes of the institution, and to its obtaining a Royal Charter, by the name of the Highland and Agricultural Society of Scotland. It is composed of above two thousand of the chief landholders and farmers of Scotland, and annually distributes about 1,500*l.* in premiums.

One distinguishing feature in the proceedings of this Society, and which has contributed essentially to its prosperity, is its having confined itself to the proper objects of the Institution, and in the appointment of Boards and selection of Officers, having abstained entirely from acting on political or party views, or being influenced by any consideration, excepting the fitness of individuals for the situations to which they are appointed.

Sir Charles Gordon, the Secretary, has filled the most important office in the Society for above twenty years, and has conducted their proceedings with great ability, assiduity, and attention. No compensation which the Society has had it in its power to make him could in any degree compensate for his devotion of time, for so long a period, to the duties of his situation. There is not, therefore, we are confident, a member of the Society, acquainted with their proceedings, who will not view the honour conferred on this unobtrusive and most useful gentleman as a favour conferred on himself.

HORSE-RACING IN HINDUSTAN.—A large quantity of Arabian and other foreign horses are annually imported into Hindustan. About the months of July and August, merchants march across the peninsula of India from Bombay, at which place they arrive by sea, with strings or batches, as they are sometimes called, of Arabs, and from these the Anglo-Indian officers make their selection. It is amusing to remark the sensation occasioned at a station by the arrival of Shaiek Ibrim, or Ibn Hassan, with a batch of horses. No time is lost, whatever the weather may be, but vehicles, hacks, and tats, are indiscriminately put in requisition to visit and examine the new arrivals. Now it is that the knowing ones look high; steal visits at unusual hours, in order that they may pursue their search unmolested; and, when questioned, restrict their replies as much as possible to monosyllable answers. What can be more natural? They feel that they are at a premium, and therefore indulge in their self-complacency at the expense of the uninitiated. At first enormous sums are demanded by the dealer, to which, of course, no one thinks of listening. Indeed, the merchant himself never means himself to make his price an ultimatum: like the first parallel in a siege, it is an approach merely. Arab horse-dealers never bargain in the presence of a third person; and they require to be humoured and petted for days in order to bring down the price to a consistent sum. A first-rate Arab, fit for the turf cannot be procured for less than 1,500 rupees, (150*l.*); and rarely at so low a price as that. The nag enters upon his walking exercise some time in September, and from this time as I before mentioned, takes daily exercise; the paces being increased as the race draws near, until the arrival of the portentous day itself. Then what flurry and hurry-scurry prevail over the whole station! Young ladies go out with their mannas at peep of dawn, shew-

ing, by their early arrival on the ground, how little sleep they had enjoyed during the preceding night; their bright eyes gladden with animation as the different bits of blood, decked out in sporting habiliments, which afford a novel contrast to the usual military garb, dash up and pay their devoirs of compliment and adulation. In another direction, big with the importance of their office, the stewards may be seen bustling and authoritative; each clad in shorts, jockey-boots, a bird's eye cravat, black hat, and slashed coat. The hope of reward sweetens labour; and it is fortunate that the worries last mentioned, namely, the stewards—possess the ladies' smiles-eye and the approbation of their own consciences to reward them; for all posts of honour next to being the manager of a mess, the most thankless is that of a steward to a race-course. Disputes are certain to occur; and, as sure as a decision is arrived at it gives offence to the disappointed party. The most agreeable office, after the amusements are at an end, is that of dispatching gloves and perfumery to the ladies, who are expected to pay their losses in the most *recherche* manner the station can afford; the value of their contributions being enhanced by the elegant billets which usually accompany them.—*Dr. Spry's "Modern India."*

VARIOUS BREEDS OF CATTLE AND SHEEP.

Such is the tenacity with which breeders retain the breeds of the district, as they are emphatically called, that a stranger would probably give great offence were he out to suggest that a much superior breed to their's might be introduced into their district. It is this overweening partiality which breeders exhibit for cattle of *particular districts*, instead of *particular breeds*, which we call *prejudice*; and which materially prevents the extension of improvement in cattle.

In these times, Agriculturists and farmers, as well as breeders, have to struggle for existence, and if it can be shewn that one breed of cattle will leave *more profit* than another under the same circumstances, then that breeder is wilfully culpable, and instrumental to his own hurt, who neglects or refuses to adopt it. The notion that an ox, to attain weight and fitness in a short time, must consume as much more food, is prevalent in many breeding districts in the Principality; but *no notion can be more erroneous*; for it is not the quantity or quality of food alone that causes the ox to attain weight in a short time. The nature of the animal must be of that kind which is favourable to the acquirement of flesh before the food can exhibit its feeding properties. There must exist in the ox a disposition to fatten. This property can only be found conjoined to symmetry of form. Both together super-induce early maturity. All these properties are produced only by judicious breeding. It follows as a matter of course, that the ox which possesses a symmetry of form and disposition to come early to maturity, will lay on a larger quantity of flesh and fat, *with the same quantity of food* than another possessing opposite qualities.

Now do all the vast varieties of breeds of cattle in Wales possess symmetry of form, disposition to fatten, and come to early maturity? If they do, why are they kept on land by breeders, feeders, and graziers, till they are at least four and mostly rising five years old? Why keep an ox till he is four, when he may be fattened at two? If they do not, why cling with so much tenacity to dull feeding breeds, when kindly feeding ones can be obtained?

Experience shews that the short horns of Berkshire and the Lammernairs are capable of filling any situation of soil and climate. They will not, it is true, thrive on foul land out of condition, or when

exposed day and night to wet and cold weather; but what animals can *thrive* under such treatment! None that we are acquainted with, although we have seen too many cattle exposed to the elements, as if they had been formed of materials as obdurate as rocks; but a better practice is happily obtained possession in Wales, and a little longer time will soon shew breeders, that kindness, in every respect, as to food and shelter, is a better nurse for their cattle than the cow leech, and a better amplifier of the purse than neglect and starvation.

The black-faced Cheviot, and the new Leicester sheep, also may be considered to possess the essential properties of symmetry of form, disposition to fatten, and early maturity in the greatest degree, in their respective situations; and as a necessary consequence, they will prove the most profitable to the breeder.

The Ayrshire breed of cows should also be encouraged, as being the best for the dairy.

There can be no doubt that, in the course of events which are progressing towards a perfection in agriculture, which it has never yet attained, only those cattle and sheep, grains, roots, and grasses, will be cultivated, which will yield the largest possible produce, and the greatest profit, along with the most perfect field-culture. A CATTLE BREEDER.

— near Ruthin.

WALLFLOWERS.

BY THOS. H. BAYLY.

They call us wallflowers, my dear,
Because we spend the evening here,
All in a row against the wall,
Ne'er noticed by the men at all!
I'm sure it is no fault of ours;
We do not wish to be wallflowers;
Not one of us that has not wanted
To be by somebody transplanted:
It never was our choice at all,
To sit here, ranged against the wall;
But, if the men, devoid of taste,
Will leave us here our sweets to waste,
Selecting silly Pinks and Roses,
To make their Hymeneal posies,
Tis very fit that here we sit,
And innocently chat a bit.
Look at Miss Rose,—she's just come in;
Some people rave about her skin!
Her clear complexion! (how absurd!)
You know I never say a word;
But *this I will say*—(how she's scented!)—
I always thought the Roses painted.
And here I vow's Miss Violet;
I ne'er could find her beauty yet!
And how they praise her!—what a fuss!—
Think of preferring her to us!
A little, dingy, paltry fright!
And what a gown for candle light!
Do see the Miss Carnations, there—
Not two alike, I do declare—
They're showy; but my sister thinks
They are so like those little Pinks;
You see the likeness!—to be sure;
The Pinks we never could endure.
See, from the valley comes Miss Lilly!
Another Beauty!—Oh, how silly!
White as a sheet, and so *petite*,
No wonder we are absolute!
For Wallflowers, truly, she's no fellow—
Men once were fond of brown and yellow.

Weeds of Witchery.

ASSESSING PAUPERS.

TO THE EDITOR OF 'THE MARK LANE EXPRESS.'

Sir,—Having attended meetings of Magistrates in Petty Sessions for some weeks past, I have been distressed to witness the situation in which both the Magistrates, and great numbers of poor persons who attended to appeal against these rates, were placed. If it be the law, that all property in the parish should be rated to the poor, such a law should, in my opinion, be altered. It is quite absurd, that men who are themselves little above paupers, should be rated to the Poor. The custom, I believe, is to assess all persons who rent above forty shillings per annum. So that a labourer having five children, and experiencing the greatest difficulty to live, if he rents a cottage at more than two pounds a-year, must contribute to the poor-rate, and the magistrates are obliged to enforce payment. Now, Sir, I propose that the rates upon all tenements let under 5*l.* per annum, should be paid by the landlord; and in order to prevent evasion of the law, should contrary arrangements be entered into, the tenant should have the power of recovering back payments so made at any distance of time, in addition to a penalty upon the landlord. With respect to the Poor Law Amendment Act I entirely agree with Earl Fitzwilliam, that it is only those who do not know the real working of it, who are hostile to the measure; and at the same time it would be very extraordinary if a measure so complicated should not require some alteration. I entertained a doubt, from the first, whether that part of the bill which directs that no out-door relief should be given to able-bodied labourers, could be fully carried into effect; and my experience as a guardian has not relieved that doubt. I think it would be good policy to give the guardians more discretionary power upon that point than they now possess. There are many cases of able-bodied labourers having so many children under ten years of age as to render it impossible for them to maintain their families upon the usual earnings of an agricultural laborer, but who, with a very trifling assistance, would be enabled to go on. I am aware of the objections to granting discretionary power. I know that it would be injudicious to give such discretion to a parish vestry, or to the justices in Petty Sessions; but a Board of Guardians is so differently constituted, that I think such power might be safely entrusted to them. I confess that I have long been an advocate for a labour-rate, and though I have given it up as a part of the Poor Law system, I still am of opinion that it would be advisable to give the Board of Guardians the power of putting it into operation in some particular localities, and on some peculiar occasions.

I am, yours,
N. L., NORTHAMPTONSHIRE.

April 25th, 1837.

ON THE MANAGEMENT OF SMALL FARMS.

The ground must first be thoroughly drained; weeds must be destroyed; all cattle must be fed in the house or straw yard upon good food. Two successive crops of the same kind not to be taken.

It is evident, that a system of over-cropping with grain will extract every kind of nourishment from the soil, and leave it so that it will not even yield grass. This is the case with land which is left to rest, as it is called, by those who take three or four grain crops in succession, and the phrase is well supplied, for the land is really not fit to do any thing. The error of this class of persons is, that they turn the land to

grass at the end in place of the beginning of their course. Had grass-seed been sown with the first crop of grain, there would have been a good crop of hay, and good after-grass, and the second crop of grain would have been as good as the first; and this is what ought to have been done by those whose land is not suited to clover, or who from poverty are not able to buy clover-seed; and even where two grain crops have been taken, it would be better to sow it with rye-grass, which will yield a crop on very poor land, rather than to leave the ground to be possessed by weeds and such herbage as may naturally rise. The fact is, the last exhausting crop should only be put in upon that portion of the farm which is intended for potatoes, and other green crops, the succeeding year, which crops then give the manure to restore it to a productive state; and by this means there is no land at all lost by what is called resting it.

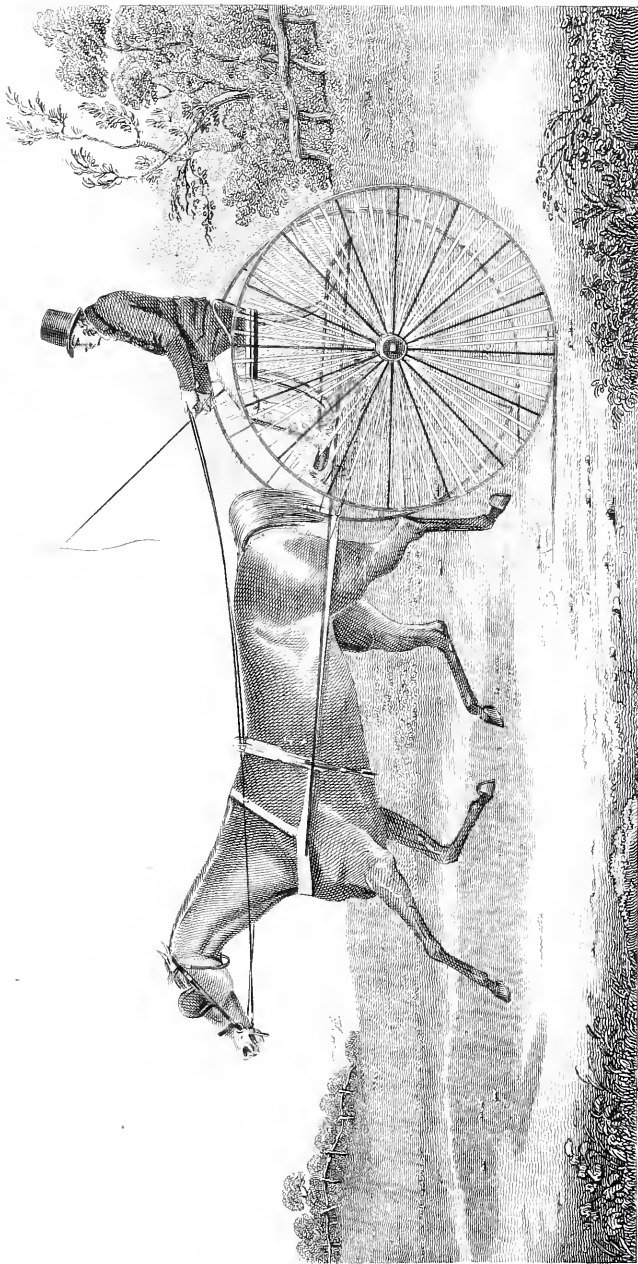
The place for manure should be so contrived as not to be exposed to any accumulation of rain water; but should receive the contributions from the sewers of the house, stable, cow-house, &c. &c.

Great advantage of straight fences—the absurdity of keeping horses on small farms, and the superiority of spade husbandry; the formation of ridges; impropriety of selling straw off the farm. When you put tea into a tea-pot, and pour water on it three or four times, the strength all is gone, and your tea becomes dead useless matter. It is just so with your manure. It is too often placed in such situations that the rain water from the house and offices, and the drippings from the higher grounds, all run through it; thus every shower floods it day after day, carrying off always some part of the strength, until at length it is left as dead and as useless as the leaves thrown out of the tea-pot. Surely no man in his senses will persist any longer in such gross mismanagement!

A combined and systematic plan on the part of that most influential class—that of bailiffs or land-agents for promoting a taste for good farming and cottage gardening, including orchards, would be of immense benefit to the Principality at large.

—near Corwen. A MOUNTAINEER.

IMPORTANT IMPROVEMENT IN BEAMS FOR BUILDING.
—A beam of very extensive dimensions, without pillar or prop, has been erected at the Pottery Gas Works, across the whole span of the new retort house, which is fifty feet. There are few objects, perhaps, connected with mechanism more worthy of inspection as a matter of curiosity, or of the stupendous power of mechanical skill and contrivance. Hitherto the plan for erecting beams has been, without recourse to the aid of mechanism, but in this beam there is brought to a practical result the whole power and ability that the materials are capable of, at a great saving of expense. The whole is fire proof, supporting an iron roof of twenty tons, whilst the beam itself weighs only two tons. It is made upon Witty and Co.'s patent principle. We are informed that two such beams as this would be quite sufficient to support a bridge of fifty feet span. We have often thought that a very great saving might be made in bridge building by something of this kind, whereby objects which usually cost thousands might be accomplished for as many hundreds. We would recommend this invention strongly to the notice of railway companies; for it appears to exhibit the very thing wanting in viaducts for railways, and would cost but a trifle of the expense of those massive structures. No proof can be more convincing as to its practicability and application to viaducts than this beam and roof.—North Staffordshire Mercury.



W. J. Thackeray.

Engraved by W. J. Thackeray.

N O N P A R E L L,

The celebrated Trotting Horse, the property of Mr. John Dixon

London: Published by J. B. Whittaker, June 1833.

NONPAREIL.—(Plate.)

Nonpareil is a chestnut mare, the property of Mr. John Dixon of Knightsbridge. She is eight years old, fifteen hands high, and celebrated for her extraordinary power as a trotter. The engraving has been taken from a very spirited and faithful sketch furnished for the purpose, by that deservedly eminent artist, W. H. Davis, Esq., Animal Painter to the Queen; which has been very accurately transferred by the burine.

A match was made for this mare, wherein her owner backed her to trot one hundred miles in ten successive hours and a half, for one hundred pounds; and Mr. Dixon took a bet of 200 to 100, that she would accomplish the distance within ten hours. The match came off on Sunbury Common, on Wednesday, the 27th of April of the preceding year; which was very fine. Nonpareil started at 6 o'clock in the morning, and performed this extraordinary undertaking, apparently with ease, in nine hours, fifty-six minutes, and three seconds. She was trained and driven by Mr. W. Stacey of Hook, near Kingston-upon-Thames.

The inhabitants of the United States of America seem to have inherited from their original progenitors that attachment to the horse, the most elegant and the noblest quadruped in the circle of creation, for which the English have always been pre-eminently distinguished; and, it may be remarked that, as these transatlantic possessions were in their infancy, as a civilized state, so the Americans commenced their racing career with trotters. In the course of our existence, it has fallen to our lot to be possessed of a good trotter: we had once an excellent hunter that trotted eight miles with us in a few seconds under half an hour; we had occasionally seen very superior trotters also; but when Tom Thumb and Rattler appeared in this country from America, their mode of going excited our astonishment: these horses could trot faster than any of those reputed trotters which we had previously seen, and they performed the pace boldly and fairly: it was the genuine trot, a pace which, we thought at that moment, had been carried in those two horses to the greatest perfection of which it is susceptible: in this respect, however, we were mistaken; nor have we the least doubt that all those persons who were acquainted with Tom Thumb and Rattler, and who have since had an opportunity of witnessing the performances of Nonpareil, and the manner in which those performances were accomplished, will readily admit that, while her action, or mode of going, is as smooth and as beautiful as possible, her speed is superior to that of any other trotter which ever appeared in public.

No quadruped can be very fleet without being very powerful also; since superior speed must be the result of superior strength; and, accordingly, although the American trotters mentioned above, were little more than Galloways in height, their animal organization was not only in beautiful correspondence, but manifested extraordinary strength also: nor was this all: although they did not appear exactly thorough-breds, yet the form and character of the genuine Arabian were sufficiently conspicuous to prove the preponderance of the

true blood; while the impress or feel of their bone, and the superior development of tendon, inconspicuously corroborated the same idea. Indeed every person acquainted with horses must be well aware that such performances as those of Tom Thumb and Rattler, could only be accomplished by an animal as nearly thorough-bred as possible. But, how the Americans became possessed of such a class or description of horses did not strike us at the moment, though a little reflection brought the matter clearly before our mind's eye, or dissipated the mystery which, at the first blush of the case, seemed to envelope it. Columbus, and those Spaniards who visited the American Continent shortly after its discovery, amongst other importations, or rather perhaps exportations, took over a considerable number of horses, having very soon discovered that the unfortunate natives were greatly alarmed at cavalry; and hence it is fair to presume that the horse is not indigenous to this vast quarter of the globe, as it was unknown to the natives of both South and North America prior to this period.

When Spain was invaded and partially conquered by the Moors, the latter brought with them a great number of horses from their own country, of that variety distinguished by the appellation of Barb, and which may be regarded as next to the genuine horse of the desert, or an Arabian of the second degree. Hence the breed of horses in Spain became very much improved; and from this highly improved stock, large draughts found their way to America in the manner we have already noticed, increased very rapidly, and spread themselves over both Continents of this very extensive country. The discovery of America by Columbus took place in the reign of Ferdinand and Isabella, who, after the expulsion of the Moors, had succeeded in uniting the whole provinces of which Spain is composed under their authority. Many of the horses taken by the Spaniards to America were allowed to run wild, and we know that in the almost boundless plains of the Southern Continent these animals may be seen at the present moment, in vast herds, in a state of unlimited freedom; while something of the same kind is observable in the prairies or savannahs of the North.

It is therefore abundantly evident that the celebrated American trotters already noticed, were descendants from Spanish importations, (the latter bred immediately from the Barb) and consequently as nearly full blood as possible. If, however, the trotters of America owe much to breeding, they may be said to be still more indebted to the influence of education, as will presently appear.

Trotting matches and trotting races have been long common enough in the United States; and in order to enable their trotters to acquire the greatest perfection of which the pace is susceptible, the Americans accustom these nags to the trot, and the trot only, from early life: so that these animals, acquainted, as it were, with no other pace, when urged to increase speed, never break into the gallop.

The action of the horse in the trot varies very much from that brought into operation in the gallop; the former being more lateral than the latter: thus, in the trot, a fore leg and a hind leg on the same side

may be said to move at the same time, indicating that rise in the rider so essential to an easy and corresponding position. The beats of the horse's feet in the gallop are very different, they create a more undulating motion, and although the off side of the animal is a trifle in advance, the pace is more smooth and even. However, as far as relates to the draughts made upon the animal system by these two modes of progressive motion; or, in other words, as respects the degree of fatigue occasioned by them, the balance is greatly in favour of the trot. When it becomes necessary to perform a long journey, to travel a number of successive days, for instance, the trot must be adopted, as the gallop, under such circumstances, would very soon bring the horse to a stand. The gallop is the fleetest pace of the two for a short distance, but cannot be maintained like the trot; because, in the motion of the gallop, the horse is united and extended every stride, and thus the operation on the system, and on the lungs in particular, becomes very distressing, if at least it be continued for any considerable length of time.

Now, it may naturally enough be asked, are not our racers, seeing they manifest such superior speed in the gallop, calculated to excel in the trot? which we feel no hesitation to answer in the affirmative. Superior progressive motion is the result of superior animal conformation; and the form best calculated for the trot will be found superior for the gallop also. Were our splendid racers taught from early life the trot, and the trot only, and steadily kept to this pace, in as much as they are larger, and their stride much greater than the class of horses generally used for trotting, they would excel precisely in proportion; and, however we may be surprised at trotting performances which have been already accomplished, they would be far surpassed under the circumstances just pointed out.

In riding a trotting match or race, it is the custom to sit down on the saddle, lean back, and thus drive the animal forward; yet, notwithstanding the general concurrence in favour of this mode of managing or riding the trotter, we are by no means convinced of its superiority. The true principles of equitation or horsemanship consist of, or are based upon, the rider assuming a corresponding position to the motion of the animal which carries him, whether in the walk, trot, or gallop. Those acquainted with the subject, or who possess practical experience as horsemen, are well aware that to sit down in the saddle when the horse trots is not the easiest position which may be assumed, because it forms no correspondence, at least no correct correspondence, with the motion of the horse. On the contrary, if when the horse begins to trot out, his rider will take the hint, which will be impressively given, and rise with the motion, he will experience none of that unpleasant shaking, or concussion which must result from the opposite system; moreover, while the rider thus becomes placed in an easy position, the horse will go more at his ease in the same proportion.

Nonpareil, it will be perceived from the engraving, performed her extraordinary feats in harness, and the draught for the purpose was placed on the lowest part of her shoulders or breast, in preference

to round the shoulders. It would appear that those who prefer the former method adopt it from the supposition that the animal thus breathes more freely, that the passage of the air up and down the windpipe is thus less impeded. We feel rather sceptical on the subject: a light collar, which fits the horse in a proper manner, does not interfere, in the most trifling degree, with the passage, or operation of the windpipe, while it spreads the weight round, or places it upon the shoulders, and thus adjusts it much more correctly; at the same time, it offers not the least interruption to the progressive motion of the horse, which, we think, the breast strap must effect even though perhaps but in a trifling degree. From a very light vehicle, such as that drawn by Nonpareil, little draught will be felt when going at the requisite speed; yet, if we study the anatomy of the horse, and take the nature of draught into consideration, it will be found, we are inclined to think, that the collar is preferable to the broad strap, and, therefore, ought to be used on all future similar occasions.

A few words on *Condition*, and we have done. To trot one hundred miles in ten successive hours and a half requires not only speed, but a degree of perseverance beyond the animal powers of the horse, unless he has previously attained the best possible condition, which can only be brought about by food, physic, and exercise.—Now, no greater proof can be given of the superior breeding of Nonpareil than her capacity to attain *condition*. It is well known, particularly in the training stable, that none but a thorough bred horse can eat sufficient corn, and go through the requisite exercise, for the purpose in question; or, in other words, if a horse not thorough bred, be supplied with corn in the same manner as the genuine courser, he soon refuses to eat, and becomes terrified at the sight of the exercise ground; in short, inasmuch as his vigor, strength, and spirit, are inferior to those of the genuine thorough-bred horse he quickly sinks under the labour required from the racer to prepare him for the course. That large development, elasticity, and hardness of the tendon and muscle, which fits the thorough-bred for his struggle on the course, cannot be placed on the bones or frame of what is called a half-bred horse, whatever pains may be taken for the purpose; a tolerable opinion, therefore, may be formed of a horse by the degree of condition which he is capable of acquiring; and when we hear of such extraordinary feats as those accomplished by Nonpareil, we may rest assured the animal by whom they were performed is remarkably well bred.

The following account of the temperature of the weather is taken from the thermometer at the doorway of Messrs. Swain and Co., Fleet-street, during one week in May, 1836, and the corresponding week this year, at noon:—

1836.		1837.	
8th May	.....60	8th May	.....54
9th	.....59	9th	.....49
10th	.....58	10th	.....49
11th	.....63	11th	.....51
12th	.....65½	12th	.....47½
13th	.....65	13th	.....56½

THE CURRENCY.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—The first column of your paper of April 10th, contains a disquisition on the subject of currency, to my mind much more ingenious than convincing. The passage at the beginning, about “simple ideas,” “Locke,” “reflective powers,” “complex ideas,” &c., has no very clear connexion with the subject, but seems better adapted to astound and mystify, than to convince the understandings of the farmers. The writer of the article seems to have got into a confusion of ideas, about *nominal value* and *real value*, and argues throughout as if we were in a state of barter; every body knows that nominal prices of commodities cannot affect their relative or exchangeable value. What, then, shall we infer that prices nominally high or low, are indifferent? Certainly not, in our artificial state. I proceed to explain what is, no doubt, the meaning of those who assert, “that no permanent relief can be afforded the agriculturist, until prices are raised above the standard of value.” As we are not in a state of barter, but make use of money as the medium of exchange, it follows that the nominal price of all commodities must depend (other circumstances being the same) on the quantity of money, whether metallic or paper, in circulation at the time; and when the paper money issued is exchangeable on demand, for a certain fixed, and known quantity of gold, its value must be uniform, and its quantity determined and limited by the quantity of gold obtainable. We have now returned to the standard of 3*l.* 17*s.* 10*d.* for the ounce of gold; the same as before the Bank Restriction act of 1797; therefore the value of the medium of exchange must be the same, and corn and commodities, can only be exchanged against the same quantity of it; in other words sell for the same price; the supply of gold from the mines not having at all increased. Sir James Graham says, “In a series of years, since the legislature has restored the ancient standard of value, wheat also must fall to its ancient price—to the price which it bore in a currency of the same intrinsic worth.”—*Corn and Currency page 19.*

And this price (as he shows) was, on the average between 40 and 50 shillings the quarter. It is a fact also, that before the depreciation of the currency by the Bank Restriction in 1797, when the same standard of money existed as at present, a bushel of wheat was usually equal in value to an ounce of silver, and that is usually its value throughout Europe; therefore as the ounce of silver is uniformly between 5*s.* and 5*s.* 6*d.*, the bushel of wheat, on the average must be so too. Your writer does not deny this—he seems to expect low prices, but he considers it of no importance, and thinks the farmer may prosper notwithstanding. But in estimating the real exchangeable value of agricultural labour and produce, I am of opinion with Mr. Malthus, that “a high money price of corn would give the labourer (and farmer) a very great advantage in the purchase of the conveniences of life;” and if this be so, the converse also is true, viz., that a low money price would be a great disadvantage.

Your writer anticipating low prices for agricultural produce, expects the landowner, tithe-owner, farmer, and labourer, to be satisfied with incomes proportionably reduced; and as a compensation, he expects commodities of all sorts to become low in proportion. But he forgets what a large portion of the price of commodities consists of taxation, direct or indirect, which must make such a result impossi-

ble. If it could be so—if all the products of industry as well as the produce of land, were to be sold always at low prices, the incomes of the great majority of the people must be low, nominally; then we should feel the aggravated effect,—the increased pressure of taxation. What says Mr. Malthus on this point? “In the course of these 20 years (1794-1813) government borrowed near 500 millions of real capital, for which on a rough average, exclusive of the sinking fund, it engaged to pay about five per cent. But if corn should fall to 5*s.* a quarter, and other commodities in proportion, the government would really pay an interest of seven, eight, nine, and for the last 200 hundred millions, 10 per cent;—and a moment’s reflection will show that it can only be paid by the industrious classes of society and the landlords, that is, by all those whose nominal incomes will vary with the variations in the measure of value.”—*Grounds of an Opinion, &c., &c., page 39.*

Taxation has long been sufficiently oppressive, but if (through the enhancement of the currency) the pressure of it is to be so unjustly increased, and “the people be compelled to pay over such a large per centage of the gross returns of their industry to the tax-gatherer, there is indeed a sufficient cause to account for a falling off, both of profits and of wages.”

To show the comparative pressure of the taxes, I will take from Mr. Marshall’s “Digest of Parliamentary Papers,” (a work of authority) the average amount of taxation for the three years previous to the adoption of the gold standard, (1816, 1817, 1818,) also the amount of quarters of wheat—also the amount of manufactured goods, required to pay it—I will compare these with the average taxation of the three years ending with 1832, and the amount of wheat and of manufactured goods then requisite.

	Equivalent of Taxes in		
	Amount of Taxation.	Quarters of Wheat.	Official value of Manufactures.
Three years average ending with 1818	55,494,689	14,688,207	55,822,188
Three do. ending with 1832	47,983,892	16,621,999	37,761,527

From this it appears, that with taxation reduced more than seven millions, the actual pressure on the people is vastly increased, and there is reason to think that it has been much worse since 1832, but I have not at hand the means of proving it.

Your writer seems apprehensive that any change would subject us to great inconvenience in our trade with foreign nations; but such fear is certainly groundless—“men bargain for the intrinsic value,” and so long as our paper money is referable to some fixed and known standard, it matters not to them whether gold be fixed at 3*l.* or 5*l.* per ounce, as there is nothing magical in 3*l.* 17*s.* 10*d.*

Your writer considers Lord Ashburton the highest practical authority on the subject in discussion; but his evidence, like a two-edged sword cuts both ways, taken altogether, for he says our present system will fail us, if put to any severe proof, such as a large importation of corn for a year or two; and he thinks it cannot stand a war. On the other hand he talks about the dishonesty of altering the present standard; but this language would have applied much better in 1792 than now; when having suspended that standard for 20 years, and added 500 millions to the public debt, borrowed in depreciated

paper, and contracted a much larger amount of private engagements in the same way, an arbitrary return has been made to the old standard. After two such instances of injustice we cannot boast much of honesty. The last change was not complete until the withdrawal of the one pound notes, but that was now some years ago, and therefore strict justice cannot be rendered; but I think a nearer approach to it might be made by a middle course.

A great deal has been said about "good faith," but good faith only demands justice, it does not require that 30s. or 40s. in the pound should be paid to the stockholder and mortgagee.

In vain may the farmer "rise early, and late take rest,"—in vain may he increase his produce and economise in his expenses under a continued rise in the value of money; and to show that this is no unfounded apprehension, I refer to the decreased and decreasing supply of gold, from the mines, which your writer notices; a fact which shows clearly the folly, as well as injustice of binding us down to an antiquated, unjust, and unsuitable standard of value, considering the immense amount of fixed engagements (contracted in a different currency) to which the people of this country are pledged. Unless some scheme be adopted to lessen, greatly, our burdens, or to give the people the means of supporting them, the wisest course will be, for all who can, to remove to some other country, where their capital and industry will have, at least a chance of remuneration.

I am, Sir, your most obedient servant,

T. F.

THE ENDLESS LADDER.—A patent has recently been obtained for a most ingenious and useful machine, adapted to mining and many other purposes, where the main object is to raise or lower weights and packages in constant succession. This simple, but very effectual contrivance, consists of an endless ladder, made either of chain or rope, which passes *over* and *under* two revolving drums or cylinders, mounted upon horizontal axes; one placed at the bottom, and the other at the top, of a shaft or plain, to or from which the ladder is intended to reach. A continuous motion being given to either of the cylinders by the power of steam or animal force, the endless ropes or chains, furnished with horizontal staves, like those of a common ladder, are made to circulate over the revolving cylinders by which they are extended, so that one part of this endless ladder is continually ascending with a slow but uniform motion from the lower-most of the cylinders to the uppermost, whilst, *vice versa*, the other part of the ladder is descending to the lowermost in an uninterrupted circulation. A vast deal of labour is thus unremittingly performed, with the important result of great economy in time and power. The invention also provides a safe and easy conveyance for men; the accomplishment of which, in a philanthropic, as well as any other point of view, has long been a desideratum in raising operations. For this purpose, a small moveable step or footboard, furnished with a handrail, is applied, which, if desired, can be made wide enough to admit of several persons standing abreast, who are, by this means, passed up and down without fatigue, and in perfect security. Independently of the certain advantages that would result from the application of such machinery to the purposes for which it appears to us so admirably adapted, we consider Dr. Spurgin, of London, the inventor of this apparatus, to have thus planned a most admirable contrivance for the poor miners, a numerous class of our fellow citizens, who, from the peculiar nature of their occupation, are exposed to fearful risks of life and limb, and whose casualties would be materially diminished by the adoption of this machine.

THE IRON PLOUGH, AND THE TURN WREST PLOUGH.

(FROM THE NEWRY TELEGRAPH.)

We are sorry to observe that our account of the Hailsham Ploughing Match in Sussex, has given umbrage to Mr. Stace and Mr. King, of Berwick, to neither of whom we had the slightest idea of giving offence. From their letters, published in the *Sussex Advertiser* and *Sussex Express*, and from them copied into the *Mark Lane Express*, they appear to enter with considerable warmth into a refutation of what Mr. Hutchinson stated respecting the draught of Mr. King's plough, and also respecting the principle upon which the judges determined the merits of the different specimens of ploughing.

Mr. Stace confines his observations upon Mr. Hutchinson to a description of what he (Mr. S.) considered constituted good ploughing, and to a denial of the accuracy of Mr. Hutchinson's report of the double draught required by Mr. King's plough; and from what Mr. Stace says, and the remark made by Hutchinson to us, viz., that the index moved in jerks or by sudden starts, we think it quite possible that Mr. H. may have formed a wrong estimate of the medium force of traction required, but he re-asserts most positively that the index upon different occasions actually passed the 8-cwt mark. But in making this admission, that Mr. H. may have been mistaken, we by no means intend to countenance the assertion of Mr. King, that Mr. H. wilfully misrepresented the matter. He could have no object in doing so, nor, if he had, could he hope to succeed in effecting any false impression either in that or any other particular, as every point in dispute may be still ascertained by a reference to facts. For instance, the same ploughs can be again tried, with the draught machine, upon the same ground. The crop sown on the land ploughed by Hutchinson and on that ploughed by his competitors most likely has been sown by the same person and with the same seed, and the braid will shew whether the seed on H's portion has been lost or not. Besides there were, we are sure, too many fair unprejudiced men at the Hailsham Ploughing Match not to make it perfectly well understood all over the district whether it was square ploughing or flat ploughing to which the prizes were awarded.

These modes of arriving at the truth of the matter are open to those in the neighbourhood of Hailsham; but we can only form our decision from our knowledge of Mr. Hutchinson's general character for good sense, propriety, and veracity, and by collating the accounts given, at the time of the transaction, of what took place, by the *Sussex Newspapers*, with the assertions now put forward. The *Sussex Advertiser*, in its original report of the dinner, states that Mr. Hutchinson (on begging for information as to the principle upon which the Judges made their decisions) said that the principle in Ireland was "to turn the furrow square;" and again, "that his chief object was to get his work as upright as possible, in order to form a good comb to cover the seed." This is not denied by Mr. Pagden in any one particular, and he merely gives it as his opinion that Mr. Hutchinson had not given the furrow slice a sufficient inclination to prevent a loss of the seed, one-third of which he asserted would fall down between the slices and never come up. But what is Mr. King himself (who now attacks Mr. Hutchinson) then reported to have said? Why, that "he agreed, too, with Mr. Hutchinson that the *sharper* the angle could be got after the land was turned, the more easily and effectually, would the harrow catch it; and, for his own part, he would certainly sooner sow corn upon the land ploughed by the iron plough that day, than he would upon that ploughed by Lady Webster's"—(Lady Webster's plough got the higher prize.)

Now this declaration seems, to us at least, in direct opposition to the charge then made by Mr. Pagden, that the inclination of the furrow slice was not sufficient; for it shows that Mr. King thought the seed

would not be lost, otherwise he could not have expected to reap a better crop—and if the seed could not be lost, it is tantamount to saying that the inclination of the furrow slice was at least equal to an angle of 45 degrees, without which the seed could not have been prevented from falling between the furrows. Therefore, by the declaration alluded to, Mr. King not only contradicts Mr. Pagden, but he also contradicts what he now says himself, as to Mr. Hutchinson's ploughing not being what is termed *square ploughing*. But the case admits of still further illustration; for the expressions, "square ploughing"—"work upright as possible," and "good comb obtained thereby to cover the seed"—expressions used by Mr. Hutchinson as applying to his own work, and not contradicted; and the expression, "sharp angle," and "additional grit" thereby obtained, used by Mr. King, evidently correspond exactly with the criterion of good ploughing stated by Mr. Stace in his letter—viz., "not being able to see which way the furrow slice had been turned"—because it is quite evident that this criterion of Mr. Stace secures the *right angle* at top, which produces the *square ploughing*, the *upright work* and the *high comb*, and therefore proves Mr. Hutchinson's manner of ploughing to have been identical with that which Mr. Stace describes and of which he approves.

Let us now see what the *Agricultural Express*, the other Sussex Paper, says on the subject. This Paper reports Mr. Hutchinson to have also said, the object in his country was to throw the ridges in such a manner "as that both sides "should slope alike," Here is again, incontrovertibly, Mr. Stace's description of square ploughing, though under a different form of words; and we contend that it is mathematically impossible to leave the furrows in such a position as to correspond with either form of words, unless the inclination of the furrow slice was turned at an angle of 45 degrees. We ask any unprejudiced person, would Mr. Hutchinson (who will not be supposed to be either a fool or ignorant of what he was talking about,) by any one who heard him argue his point at the Hailsham dinner)—would Mr. Hutchinson, we repeat, have thus advocated a rule of judging of the merits of the ploughing, by which *his own ploughing would have been condemned*? It is quite evident that the rule he proposed must have told in his own favour, or he would not have alluded to it, or else he must have been a fool or an ignoramus, or both. But Mr. H.'s description of "sloping alike "on both sides" is not contradicted by Mr. Pagden, who merely replies—"The grand fault in ploughing was in not "completely turning the ground." This is the expression used at the time by Mr. Pagden, on the part of the Judges, and will any one contend that this means, or was intended to mean, *square ploughing*? Nevertheless, the *Sussex Agricultural Express* and Mr. King reflect on us for supposing that square ploughing was not fully appreciated by the Sussex farmers, and Mr. King asserts that "it is quite a mistake to "suppose the premium was withheld from Mr. Hutchinson because he laid his ground at an angle of 45 (this is synonymous with square ploughing), but because he did not do so;" which is, in other words, asserting that *square ploughing* was the rule the Judges adopted in their decisions. Now it is on record, by the report of the Sussex Papers, that Mr. Hutchinson, at the dinner, asserted that, "the ploughing which got the higher premiums, if ploughed in Ireland, would have been judged inferior, because, in that country, the rule of ploughing is, that the soil should be turned square," and we ask, is it reasonable to believe, considering the warm manner in which the point had been argued) that if *this same rule of square ploughing had been acted on at Hailsham*, as Mr. King reports, there would not have been an individual in the whole company to get up and say so, in reply to Mr. Hutchinson's observations.

We have been led to this analysis of what passed by the gross charge brought against Mr. Hutchinson by Mr. King; and we think what we have said not only justifies him from any such charge of positive falsehood or wilful misrepresentation, but makes it incumbent on Mr. King to reconcile his late assertions with the

published accounts of the meeting, which we confess it is, in our opinion, impossible for him to do.

Having now justified Mr. Hutchinson from the charge of wilful misrepresentation, and shown, by collating the Newspaper statements, that his ploughing must have been square ploughing, and that the rule with the Judges could not have been so, we can only again express our regret that any observations of ours should have given offence to Mr. King or any one else; and we drop the subject, hoping that the very interest which has been thus excited may, in itself, by drawing more attention to the matter, still farther promote the praiseworthy endeavours for the improvement of Sussex agriculture by which the Landed Proprietor we have formerly alluded to has been so much distinguished.

Since writing the foregoing, we hear from Mr. Hutchinson that Mr. King had five horses in his plough when the draught machine was applied but he only stated four, as Mr. King told him the fifth was put in merely for exercise. This does not, however, look much like *wishing to exaggerate* his own merits in following with only a pair, and must, in itself, acquit him of any such intention. He begs us to add that he had no wish to hurt the feelings of Mr. King or any other person, being then, and still, grateful for the kind treatment he received, both from that Gentleman and every one else during his stay in Sussex.

PARALYSIS IN LAMBS.

A LETTER FROM ———

(From the Veterinarian.)

I have for the last two or three years been experimenting on crossing the Cheviot sheep of this country with the Russian breed of sheep; and the result has been, that I have produced an animal of a large size and rapid growth, but which is subject to a disease uncommon to the breeds of sheep in this country. The lambs, when about five or six weeks old, are frequently affected with paralysis in the hind legs, from which I have never been able to recover them. If they pass the age I have mentioned without an attack of this disease, they grow strong and healthy; and I have killed them when two years old, weighing twenty-six pounds per quarter. From the interest which I know you take in these matters, I have sent you, by the bearer, one of the lambs about five weeks old, and affected in the manner I have described, which you may experiment upon, and perhaps discover the cause of the disease, and the means by which it may be cured. The lamb I have sent you was a twin, which its mother would not take to, and has been brought up in a cotter's house: it is, on that account, not so large as the other lambs of the same age. You will observe that both in shape and wool it partakes of the peculiarities of the father's breed. He has no tail, but a large mass of fat instead. The Cheviots, you are aware, have a long tail: their representative in this part shews the union of the two. The lamb which you will receive is black; but they are not all so, the majority being white, and some spotted black and white. The ram is of a brownish colour. I shall be happy to be favoured with an account of any experiments which you may think of making upon the subject sent.

[A variety of remedies were tried, but without effect. After death an effusion of serum was found in the lateral ventricles of the brain.—D.]

COMMUTATION OF TITHES.

TO THE EDITOR OF THE NORFOLK CHRONICLE.

STR,—The remarkable silence which has prevailed in most counties, but more especially in this, the first Agricultural county in the kingdom, on the subject of the tithes, since the passing of the bill for the commutation thereof, may be regarded as somewhat of an anomaly. If it should be construed into an approval of the measure, the period that is suffered to elapse, which might have been employed in carrying a most important provision into effect—namely, that of a voluntary commutation—can only be received as conclusive evidence to the contrary. And on the other hand, if it is not palatable to the landed interest, it is the more extraordinary that not only no means should have been employed to make the legislature acquainted with any exceptions that may be taken to its enactments, but even that no one should have deemed it of sufficient importance to offer any remarks upon the subject, through the medium of the public journals. That the bill is not intended to remain a dead letter on the statute books, we know full well; since, however dilatory landed proprietors may be in subscribing to its provisions, the period is fixed when it will no longer be in their power to act for themselves—and we all know how to appreciate the maxim which says, "*Celui-la test le mieux servi, qui n'a pas besoin de mettre les mains des autres au bout de ses bras.*" Or in plain English, that man is the best served, who can effect his own business without the intervention of other people.

The reasons assigned by some persons for not proceeding to a voluntary commutation are either that they do not sufficiently understand the bill to be convinced of the utility of so doing, or that they apprehend the probability of some of its clauses being modified or corrected in the approaching session of parliament. Of the latter we shall very soon be apprized, since if no notice be given to that effect by any of the members in the early part of the session, it may be presumed that no such measure is in contemplation; and with respect to the former, no better plan can be adopted in order to arrive at a just conclusion than that of discussion; and with this view, Mr. Editor, with your permission, I will venture to break silence, under the impression that the remarks which I have to offer, may have the effect of calling forth the observations of other persons better qualified than myself to elucidate the subject.

That the bill is in favour of the tithe-owner I presume is unquestionable; but that it is fraught with consequences which may eventually prove inimical to the established church; and even in the first instance, that it may be less calculated to effect a salutary adjustment of the claims of two parties whose interests are opposed to each other, are questions which already present themselves to many a conscientious pastor of the church. The objections urged against the bill by those who have given it a serious consideration are—first, that it will place the owners and occupiers of inferior soils now under cultivation in a much worse situation than heretofore, since if corn is permanently so low that such lands can no longer be cultivated to a profit, no relief can be had by laying them down to pasture; and secondly, that in the event of high prices, arising from defective crops, the evil to them would increase in an inverse ratio to their means of meeting it, since the number of bushels of grain assigned to the tithe-holder as his share of the produce might expunge the whole of the crop. Another objection, and one indeed which requires serious consideration, is that of the parochial rates, which it would appear are to be converted into so many additional bushels of corn, and fixed in perpetuity as a rent-charge upon the land. That the poor-rates formerly included all the "scrip" and "omnium" of parochial mis-management is unquestionable; but as the poor law amendment act is to effect a diversion in the financial department of parochial affairs, by turning off a portion of the turbid stream into other channels, it would be manifestly unjust to deprive the farmer of a due participation in the benefit thereof. In point of

fairness it is somewhat questionable whether any addition ought to be made to the rent-charge, in consideration of the parochial and other rates being hereafter chargeable upon the tithe owner instead of the tithe payers; because as the tithes will in future be paid to the incumbent half-yearly instead of annually as heretofore, the interest upon the first half-year's instalment, together with the saving that must arise from his not being subjected to any outlay for the taking of the tithes in kind, and the certainty that he will always receive his share of the produce of the land without risk, or deduction, ought to be esteemed nearly equivalent to former charges and present liabilities.

As to the process of carrying the provisions of the bill into execution, as far as regards a voluntary commutation, it is so simple and well defined, that with a few exceptions, which have scarcely any reference to a county so purely agricultural as that of Norfolk, there are comparatively no obstacles to surmount; nor indeed, are there any which cannot be overcome in the next stage of the business, although there are circumstances attending the adjustment of the rent-charge with which the occupiers ought to make themselves fully acquainted; otherwise there will arise much bickering and dissatisfaction in those parishes where due precaution is not taken to put the valuers upon a right footing.

I am induced to offer these observations, because amongst the many persons with whom I have conversed upon the subject, very few appear to clearly comprehend the whole principle of the bill, which is simply this:—

An agreement is made in the first instance between the tithe-owner and the tithe-payers, the principle of which is, that so many bushels of wheat, barley, and oats, in the proportion of one-third in value of each grain, shall be for ever set apart for the former as his share of the whole produce of the land, in lieu of all other description of tithes whatever—thus, having previously determined what amount would be due to the incumbent in money (which, by way of data, I will assume to be 600*l.* a-year), it remains to be ascertained what quantity of corn 600*l.* will purchase, wheat being 7*s.* 0*d.* per bushel, barley 3*s.* 11*d.* per bushel, and oats 2*s.* 9*d.* per bushel, one-third being laid out in each description of grain; and the product will be the amount in bushels of corn annually due to the tithe-owner. Thus, in point of fact, the tithes in future are to be paid in kind; but as it would not only be very inconvenient for the tithe-owner to receive his quota in grain, but also to the tithe-payer to deliver the specific quantity of such grain of an equable quality, it has been determined by the legislature that the farmer shall pay the same amount in money which such corn would come to, if sold at the average prices of those grains respectively, as computed from the weekly returns "for the seven years ending the Thursday next before Christmas" in each successive year.

I fear, Mr. Editor, I have already extended my remarks to a length which will occupy too much space in your valuable columns; but there is still another point to which it is very important to allude. Two gentlemen have already favoured the public with "Tables," which were intended to facilitate the converting of the money rent-charge into a corn-rent; and also for calculating the amount payable upon the same, as determined by the price of corn; both the one and the other, from certain causes over which the gentlemen alluded to had no controul, are, to a given extent, rendered nugatory; nevertheless I will endeavour to follow those gentlemen in their calculations, in order to show the principle upon which the money rent-charge is reducible to a corn rent: conceiving, as I do, that it is of the greatest importance that valuers should clearly understand each other upon this subject. The first return made by Mr. Jacob having been in quarters, Mr. Reynolds, of Yarmouth, published a set of tables founded upon the principle, it is to be presumed, that

100*l.* laid out in wheat, at 5*s.* 3*d.* per quarter, would produce 35·56 quarters.

100l. laid out in barley, at 31s. 9d. per quarter, would produce 62'98 quarters.
 100l. laid out in oats, at 22s per quarter, would produce 90'9 quarters.
 Therefore, as I understand the principle, I should say, 100l. or 2,000s.— $56 \cdot 25 \times 8 - 3 = 94 \cdot 814$ bus. of wheat.
 2,000s.— $31 \cdot 75 \times 8 - 3 = 67 \cdot 079$ bus. of barley.
 2,000s.— $22 \times 8 - 0 = 42 \cdot 424$ bus. of oats.
 the two former agreeing with Mr. Reynolds—the latter not exactly.

Then again it should be observed, that in conformity with an order of the House of Commons, Mr. Jacob made a subsequent return of the average prices of grain bushels; and although every body knew that if the former returns by the quarter were correct on the several averages of the seven preceding years, the sum would only amount to 7s. 0½d., for wheat, yet Mr. Jacob chose to make it 7s. 1¼d., upon which price Mr. Simpson calculated his tables. It appears, however, that the Comptroller of Corn Returns was actually in error, and that he has now gone back to the former price of 7s. 0½d. for wheat, the barley and oats remaining the same, viz. 3s. 1½d. and 2s. 9d; upon which prices it is, we presume, finally determined that the principle of the Comutation is to proceed. Thus I am again brought back to Mr. Reynolds, because, at 7s. 0½d. and 3s. 1½d. are the nearest approximations to 56s. 3d. and 31s. 9d. that can be had without the employment of decimals, it might be imagined that Mr. R.'s calculations are correct; but as they happen to be only an approximation, I fear it will be found in the sequel that Mr. Reynolds' tables cannot be received in practice.

I will now proceed to investigate Mr. Simpson's tables by the same mode of calculation heretofore employed, which will also show the difference that will accrue from the last return of Mr. Jacob. Thus, 100l. or 2,000s.— $7 \cdot 104166$, and the quotient divided by $3 = 93 \cdot 841651$ bushels of wheat, which agrees with Mr. Simpson; but unfortunately we have now to employ a division equivalent to 7s. 0½d. instead of 7s. 1¼d., i.e. 7'020833, which will produce 94'955494 bushels of wheat, instead of the quantity stated above—thus creating a difference compared with the tables of Mr. Simpson, for which that gentleman is no way accountable: nor is it to be doubted that a new edition thereof, adapted to the last return, would be received by the public in a manner sufficiently flattering to indicate a due sense of their utility.

I will now briefly revert to my former position, in order to investigate the double process, first of converting the money rent-charge into a corn-rent, and afterwards of fixing the annual variation in the amount, according to the fluctuating prices of grain. Thus, supposing the tithes of a parish to be commuted at the sum of 600l., it follows that 12,000s.— $7 \cdot 020833$, and that quotient by $3 = 569 \cdot 732964$ bushels, the quantity of wheat which is annually to be paid to the incumbent, and again the same number of shillings— $3 \cdot 958332$, and the quotient by $3 = 1010 \cdot 526656$ bushels of barley: also 12,000s.— $2 \cdot 75$, and the quotient by $3 = 1454 \cdot 545454$ bushels of oats. Then again, supposing that wheat in any one year, upon the average of seven years, should be 5s. 6d. per bushel, barley 3s. 8d., and oats 2s. 6d. (which were about the average prices in Norwich market to Michaelmas last), the amount due to the incumbent for that year would stand as follows:—

	s.	d.	£.	s.	d.
569·732964 bushels of wheat at 5	6	15	13	6	¼
1010·526656 bushels of barley at 3	8	185	5	3	
1454·545454 bushels of oats at...2	6	181	16	4	½

Total..... 523 15 1½

I remain, Sir, your very obedient Servant,
 Dilham, Jan. 13th, 1837. W. NORFOR.

the gooseberries, currants, and raspberries begin to ripen, a small stake is driven into the ground or bed, near the trees to be protected, leaving about a yard and a half of the stake above ground; the rings slipped over the head of the stake, and the cat, thus tethered in sight of the trees, no birds will approach them. Cherry trees and wall-fruit trees are protected in the same manner as they successively ripen. Each cat, by way of a shed, has one of the largest-sized flower pots laid on its side, within the reach of its chain, with a little hay or straw in bad weather, and her food and water placed near her. In confirmation of the above statement it may be added, that a wall of vines, between two hundred and three hundred yards long, in the nursery of Mr. Kirke, at Brompton, the fruit of which, in all previous seasons, had been very much injured by birds, was, in 1831, completely protected, in consequence of a cat having voluntarily posted himself sentry upon it.—*Trans. Hor. Society.*

ON MANURES.

(TO THE EDITOR OF THE MARK LANE EXPRESS.)

SIR.—A correspondent in your last week's paper, asks the question, "Is it possible to form a fictitious bone dust, by impregnating lime with phosphoric acid, so as to form a cheaper manure to the farmer, than the present expensive bone dust, and which is often not to be got in sufficient quantities?" To this query I decidedly answer yes; it is now done and selling in large quantities in London; prepared somewhere in the neighbourhood of the Regent's Park, and known as Lance's Animalized Carbon. The article was first prepared in Paris, the Agricultural Society of that city having awarded the inventor a considerable sum, and subsequently at Copenhagen, from whence Scotland has hitherto supplied, and where its use has given the fullest satisfaction.

I have procured Lance's preparation from an agent at Basingstoke, and like it as well as bone dust, much better indeed than the coarser sort. That it is composed of phosphoric acid with lime, any chemist may convince himself; but when it is known that human urine and fæces are considerable ingredients in the compound, those who have read will be satisfied that phosphoric acid may be extracted from these matters; but to prove its similarity to bones, I have mixed about one-fourth quantity of lime in the state of dust, and am quite satisfied with the results. With respect to price, mine cost me little more than half what I have paid for bones. As to the second question, "It is granted that phosphoric acid is procured from bones, but where does nature procure it to form these bones?" To answer this question fully, would lead too much into scientific inquiries, for a newspaper paragraph, and not be interesting to the general reader, but I will briefly say, that the acid in question is found in the earth, and pervading many vegetables, and all animals as well as their excrementitious matters; that it is taken up by all corn, particularly wheat, as has been proved; which gives out the acid in union with lime for the formation of bone. The milk of the mother is found to yield the largest quantity of phosphate of lime at the period of bringing forth the offspring. The chick in the egg receives the bony substance from the shell, hence it is thinnest at the latter period of incubation. Your correspondent may with equal propriety ask why this is so, as to inquire where did nature procure the acid. All I recommend is, that he tries some of Lance's Animalized Carbon, as a substitute for bone dust, and if not satisfied with that answer, let him say so, and he will be further informed by

April 27, 1837.

A SURREY FARMER.

SENTRY CATS.—Robert Brook, Esq., of Melton Lodge, near Woodbridge, has four or five cats, each with a collar, and light chain and swivel, about a yard long, with a large iron ring at the end. As soon as

Our correspondents are referred to an advertisement in this day's Paper, of Lance's Animalized Carbon and other manures.—Ed. M. L. E.

ON BONE MANURE.

Sir,—In your paper of the 24th of April, is a letter from a correspondent respecting the possibility of manufacturing a fictitious Bone Dust, by impregnating Lime with Phosphoric Acid, so as to form a cheaper manure than that procured from bones. In answer to that question, I beg to say, that there is not any means by which lime can be impregnated with phosphoric acid, for the purpose he intends it for, as there are not any cheaper or readier means of obtaining the acid than from that of bones. In proof of that it is only necessary to state, that it is the source always applied to by such chemists and manufacturers as require its agency. There is a natural phosphate of lime which is known under the name of assatise and asparragus stone, which is only found in any quantity in Sweden and Spain. As to the question, where does nature procure it to form these bones I cannot afford any information, as it is one of the many physiological facts that has long puzzled the scientific. True it is that many vegetable substances contain a small quantity of phosphoric acid in combination with lime, magnesia, and iron, but nothing in proportion to the mass required by the animal frame for duly impregnating the bone,—for the bone you are aware is a frame-work of gelatine, rendered firm by a deposition of phosphate and carbonate of lime. Vauquelin and others by their experiments have proved that there is an insufficiency of the phosphate taken into the system to supply the required quantity; and this has led many to assume that phosphorus is not a simple body but that it is generated out of other materials in the body; it is moreover well established that animals give out more phosphates than they have taken in, and that after having supplied the system with what it is in need of for the support of the bones. While on this subject, allow me to observe, that I think there has been some error in ascribing the benefit derived from bones as proceeding from the phosphate of lime they contain; that it may have beneficial effect is very possible, but requires direct experiment to prove it, for it is to be borne in mind that bones as they are now applied are not entirely phosphate of lime—no, nor yet one-half of it, for in every 100 parts of bone there is

Solid Gelatine ..	51
Phosphate of Lime ..	37 . 7
Ditto Magnesia ..	1 . 3
Carbonate of Lime	10

100

Giving little more than $\frac{1}{3}$ of phosphate of lime. Now from the circumstance that all decomposing animal matter has a most determinate effect on the accelerating of vegetation, I am strongly inclined to believe that it is the Gelatine that plays so very conspicuous a part in the bone dust; this view is supported from the fact of the length of time a dressing of bone dust lasts; for bones that have been long buried in the earth have been found after many years to still retain a portion of the gelatine, at the same time hardly any of the phosphate has disappeared; now as vegetation is always affected by an active principle, one would be led to assume that the manure had been derived from the gelatine which had disappeared more than from the phosphate which had remained, it is, in my opinion, this property of slowly parting with its gelatine that renders bone dust capable of effecting the crop so long after it has been applied; whether I am right or not, direct experiment can alone decide; if I am, then it is certain that the dealers in bones deprive them of a great

deal of their nutritive properties by first boiling them, as they are accustomed to do, to obtain the fat and in some instances part of the gelatine.

I cannot close this communication without advertising to a letter in your paper of the 1st instant, signed, a Surrey Farmer.—A Surrey farmer he may be, but I am strongly inclined to think he is Mr. Lance himself from the tenor of his letter. If he is acquainted with chemistry as he would lead one to believe, he must know that “animalized carbon” is pure nonsense, and the term can only have been invented to beguile the innocent.

That excrementitious matter is highly beneficial when applied as manure, no one can deny; there is none perhaps equal to it for the generality of land; but to say that animalized carbon, provided it is composed as he sets forth, is the same as phosphate of lime is a most gratuitous assertion, for in the ingredients he mainly depends upon for constituting its identity with bone dust there is in urine only 294 in 1000 parts, and that only from adults, as young persons do not give it off, and in feces there is scarcely a trace; neither is it any answer to your correspondent, for if I do not mistake his meaning, he wishes for a substitute that can be made at home. I know nothing of Lance's compost, never having seen any one who has tried it, but this I know, that if its principle ingredients are such as stated by the Surrey farmer—Lance could not sell it at 1s. 6d. a bushel, nor at any thing like the price of bone dust.

As to his observations respecting the sources from whence phosphoric acid is procured by nature, I have by anticipation in part answered them, and therefore will only briefly ask him to point out where phosphoric acid exists in the earth; particularly in the southern and south eastern parts of England; as to the other sources, I will mention the proportions of the principle of them, and then leave your readers to judge whether it is possible to obtain 38 per cent from them of phosphate of lime: wheat can contain only a slight quantity, for there is from 94 to 97 of gluten and starch; milk contains about 0.30 in 1000 parts, so that an infant drinking 1000 pounds of milk takes in the 30th part of a pound, or about $\frac{1}{2}$ an ounce, and even that it never gives off again, and egg shells contain one per cent, and that a combination of phosphate of lime and magnesia; if therefore it is on such data as the above that the “animalized carbon” as offered as a substitute for bone dust, I distinctly assert that it will disappoint the users of it; nevertheless it may be a very good manure in other respects. Should any further explanation as to phosphate of lime be deemed requisite, I shall be happy to afford it your correspondent.

London, 13th May, 1837.

Yours, T. R. F.

Graysmore, near March.

MR. EDITOR,—Will any of your numerous correspondents oblige me by answering the following question:—Which is the best manure for oats on well drained, black fen land of good quality, which has been layed two years, ground bones or rape dust? and what quantity of either would it be requisite to drill either mixed or unmixed with burnt twitch ashes, or is there any other artificial manure better adapted to the purpose?

J. M.

IMPERIAL ESTABLISHMENT FOR BREEDING HORSES IN AUSTRIA.

“ From Deré Kegyhaza I went to pass the night at Mezohegyés. This is the finest establishment in the Austrian monarchy for the breeding of horses, and their improvement. I have examined it with care, and will give a detailed account of it. The stud of Mezohegyés is on 40,000 acres of land, of the best quality, and in one piece. This immense space is surrounded by a broad and deep ditch, which completely isolates it. It is environed by fine plantations, sixty feet broad, in its whole extent, which is fifteen leagues. A thousand acres, planted with walled groups of trees, break the uniformity of the plain: it is carefully cultivated, and its produce serves for the support of the establishment. Three hundred and sixty ploughs are employed on it; half of which are drawn by oxen, and half by horses. Formerly this stud had to supply horses to recruit the cavalry; 20,000 horses were kept there. But the horses were not good, and diseases shewed the defects of this system. At present, the object of the government here, as well as at Bablona, is only to obtain stallions of a good breed, which are sent to the dépôts in the provinces for the service of private persons, and in order to keep up the number, 2000, which has been judged to be necessary. In the annual supply of 400, the contingent of Mezohegyés is 159. To produce them, there are kept 1000 brood-mares and forty-eight stallions. Two hundred mares and 600 oxen are employed in cultivating the ground. The plain is divided into four equal parts; each of these four is subdivided into portions, which are like so many farms. An officer, and two subaltern officers, are placed at the head of each great division, to direct and superintend it. All the persons, the implements, and the teams necessary for the cultivation, are then collected, as well as the young animals, which are classed according to their age and sex. At the age of four years the young horses are all collected in the centre of the establishment, which is amply provided with all the necessary buildings. The best animals are selected to supply the deficiencies in the establishment, in order to keep it always on the same footing. A selection is then made of what may be wanted by the other studs; then, when the stallions have attained the age of five years, a hundred and forty, or a hundred and fifty, are sent to the principal dépôts. The remainder are sold by auction, or given to the army to remount the cavalry. At present, the whole number of horses here, including the stallions, the brood-mares, colts, and fillies, is 5000. The persons employed in the direction, the cultivation, and the care of the young animals, consist of a major-director, twelve subaltern officers, and 1170 soldiers, keepers, cultivators, &c. &c. Never was so vast an establishment conducted with more order and economy. The present director is Major Blockberg, an officer who appeared to me to be very capable, and worthy of the post which is confided to him. The imperial treasury advances to this establishment every year, the sum of 118,000 florins: it is reimbursed by the sale of the 150 stallions which the establishment sends every year to the provinces, at the price 1000 florins each, and by the value of the horses supplied to the cavalry. All the other expenses, of every description, are paid for by the produce of the establishment, which is required to defray, and does defray all. The consumption of oats is 72,000 bushels. The cultivation of wheat being extremely advantageous on this soil, it is carried on here, and the wheat is sold to provide for

other wants. 150,000 quintals of forage are consumed, besides straw. The results of this system are, therefore, marvellous; and especially in the eyes of a Frenchman, whose country has nothing analogous to it. It is an immense estate; a farm on a colossal scale; a stud in proportion, managed for the account of the sovereign, which produces a considerable revenue, independently of the principal object which is attained, and which consists in the propagation of the best breeds, and the multiplication of horses. Thanks to this system, the success of which is complete, the Emperor of Austria can purchase, at a moderate price, a number of horses, always sufficient for the wants of his army. He pays for horses for the light cavalry, 110 florins; for the dragoons, 120; for the cuirassiers 140; for the train, 160; and for the artillery, 180. It is a great element of power to possess at home such an immense resource against a time of war, at an expense so far below that which the powers of the west and south of Europe are obliged to incur.”—*Duke of Ragusa.*

PORK ESTABLISHMENT OF MEXICO.—There exists in Mexico a very fine race of hogs, which are regarded as an important article of commerce, and the care which is taken of these animals so far surpasses that which I have seen elsewhere, I think it may be very useful to our farmers, brewers, and distillers, to be made acquainted with the principal details. The buildings of these establishments include a house for the manager and the workmen, a shop, a slaughter house, a place for singeing, rooms and vessels for the fat and lard, (articles which often supply in Mexico, the place of butter) other rooms where black pudding is made and sold to the poor, and a soap manufactory, in which all the offals are used. The stables which contain about 800 hogs, are behind these buildings. They consist of out-houses, well made, thirty feet deep, with overhanging roofs. The entrance is by a low vault, in front of which is an open space twenty-four feet wide, extending the whole length of the yard. In the centre of this is a stone aqueduct, through which flows clear water from a well or spring, the hogs being allowed to pass their snouts only into the stream, through openings in a wall, which prevents their soiling the beverage. It is the only liquid they are allowed to take. They are fed with Indian corn, slightly moistened, and spread upon the floor. The pens and the space on which the animals walk are kept in great cleanliness. The hogs are in the immediate charge of a number of Indians, attached to the establishment, and who often give them a cold bath, for it is thought that cleanliness contributes to that prodigious increase of fat which constitutes their principal value. It is the business also of these care takers to keep them in good humour. Two persons are employed from morning to night in adjusting their quarrels, and in singing to induce them to sleep. These persons are chosen on account of the strength of their lungs and ability to charm the ears of their amiable associates, which is deemed an affair of no inconsiderable merit. The proprietor of one of these establishments assured us that the expense of it amounted to 300,000 francs, and that the sales rose to 10,000 a week: the luxury of his equipage indicated, in fact, the possessor of a large fortune.

THE CORN EXCHANGE, MARK LANE.

I.

MARK LANE! resort of factors and of millers!
 Merchants and bakers, thrifty sons of gain,
 Contractors, farmers, mealmen, and distillers;
Dealers they are, although not *rogues* in grain:
 Here smile hale faces, for your true cure-killers
 Are they who follow in fair *Ceres'* train;
 E'en *here*, though smoke surrounds us, there seems born
 A rustic sunshine from the yellow corn!

II.

Here stand flour-factors, *laughing in their souls*,
 Because, perchance, they've "caught" the wily bakers,
 While *they* are planning how their next new rolls
 May make more business for the undertakers!
 Astringent alum in its grasp controuls
 The little puffy loaf—the cheerful makers
 See round them rise high pyramids of wealth,
 And gain their bread, while others lose their health.

III.

I love to see a *mill*er in MARK LANE!
 To hear him slyly ask a factor's "price;"
 And, while he handles the plump rattling grain,
 Declares it *bingled*, only fit for mice!
 Then will he turn, yet soon *re-turn* again,
 Pronounce it "dear," yet buy it in a trice;
 While, though his honest brow is somewhat lowery,
 His eye is sparkling, and his speech is *flowery*!

IV.

Did not fair *Ceres* make a slight mistake
 When she first patronised a mart like this?
 Do they who sell, and buy, and grind, and bake,
 Ne'er vex the goddess when they act amiss?
 And does she not, poor *Ceres*, oftimes quake,
 When rapid keels, in mingling discord hiss
 In ocean's tide? while on the billows borne,
 The very ship-holds groan forth—"foreign corn!"

V.

It comes—is sold, or placed "in durance vile,"
 In bend—while here the farmer's teeming land
 Rewards him not for tillage and for toil,
 Nor throws its wonted profit in his hand;
 He grows dis-spirited, neglects the soil,
 While hapless peasants mournful round him stand,
 And, murmuring, feel a strange foreboding dread—
 Though corn be cheap, they cannot purchase bread!

VI.

Not that we deem "cheap bread" an evil.—No!
 But when through long and heavy-burthened years
 A man has tilled the earth, and tilled it too
 And sowed in joy—yet often reaped in tears,
 With much to bear, and something to forgo,
 Ere a bright speck upon his fate appears—
 Say, is it justice thus, that alien lands
 Should snatch the profit from his toiling hands!

VII.

Why is earth's produce in Britannia's isle
 Not raised as cheaply as in foreign climes?
 What cloud has dimmed prosperity's sweet smile?
 Whence gloomed the darkness that enwraps our
 times?
 I dare not hint that statesmen might beguile
 Wrong by their errors,—ruin by their crimes,—
 I tax no mortal—am no vain alarmer,
 I only guess they've crushed the British Farmer!

VIII.

Yet the bold farmers bear the evil well!—
 I love to see them, and their rosy daughters,
 Who, while their fathers of their losses tell,
 Shoot from their eyes a hundred thousand slaughters;
 Ye rustic swains! how many a country belle
 With her own sweet simplicity has caught us!
 When once a youth is *caught*, 'tis vain to strive
 To get from love's drag-net again alive!

IX.

Sweet is the fragrance of the fertile farm,
 When Spring comes sporting in her garb of green,
 On hill, in vale, in budding woods, a charm
 Is felt in all that there is heard and seen;
 And Summer glides upon us soft as balm,
 And Autumn marches with her solemn mien,
 And waving corn-fields bid the heart aspire
 To social joys around the Winter fire!

X.

MARK LANE!—MARK LANE! farewell to thee
 and thine!
 Disburse thy favours to the cits of London,
 Indeed 'tis true (as is this lay of mine)
 That, without thee, the cockneys might be undone!
 Soon might they waste, for wheaten bread repine,
 Hot rolls! fat aldermen! there might be none done!
 And therefore, all who would not life's thread sever,
 Shout loud and loud—"Hurrah! MARK LANE for
 ever!"

From *Metropolitan Sketches*, &c.
 By JAMES BIRD.

AGRICULTURAL IMPROVEMENT— ROSS-SHIRE.

For the information of turnip-growers, and to enable them to regulate their supplies of artificial manure in the ensuing season, we are authorised by Sir F. A. Mackenzie, to insert the following experiments, made on his Ross-shire farms in 1836. Having appropriated the greater part of his farm-yard manure to the cultivation of newly reclaimed lands, Sir F. laid down one field of sixteen acres Scots, with bones, half drilled, half dust, dibbled in at about the rate of about twelve bushels per acre; the soil, a sandy loam, long cultivated, and one half of which had been limed four years previously. The whole produced a most luxuriant crop, but if any difference appeared, it was in favour of the part unlimed. Another field of fourteen acres had in part been reclaimed from heath about four years, the soil gravelly; the rest was old, light, earthy, croft land, in separate patches, the whole limed four years previously, and laid down with bones dibbled at the same rate per acre; the crop was excellent, but on the old croft land superior to where it had been lately reclaimed. Both the above fields were sown with green top and Aberdeen yellow turnips. A third field, of sixteen acres, was laid down as follows:—five acres with Swedes, and best farm yard dung, as usually done; three acres with white globes, bone dust dibbled, sown at the same time as the Swedes (for early eating); four acres with best common farm yard dung, green tops, sown three weeks later than the globes; four acres green tops, in alternate patches of six drills each, first, dibbled bone dust, second, dibbled animalized carbon, and third, dibbled pulverized farm manure; the bones at the rate of twelve bushels per acre; the carbon nearly double that quantity; the prepared dung about a small handful to each dibble hole, and all sown in the same day. Soil of upper end of the field a goodish dry loam, lower part poor, wet, cold, gravelly loam, the whole limed some years previously. Swedes a good crop, excepting a small part of lower end of field. Early globes, heavy crop upper, and good crop lower end. Green tops, farm-yard dung, poor crop generally. Bones excellent every where, carbon middling crop, and rather worse at lower end, pulverized dung excellent in upper end, very inferior in the lower. The difference was so marked, that even an inexperienced eye might perceive it, as each case was repeated three

or four times, and the inference therefore is as follows.—Carbon is not to be in any case recommended, excepting where the fly is destructive, in which case a small quantity might be advantageous, as for the first ten days it forces on the young plants in a surprising manner. Bones are most advisable as a general manure for all kinds of soil, and produce first-rate crops of turnips, where they could not be grown by any other means. But if the soil be a good dry loam, there can be no necessity for the outlay upon an artificial substitute, when a pulverized manure can be prepared at home by any farmer, without any cost, and equally efficacious as the best bone dust. Sir F. likewise tried the carbon and bones on another farm, in alternate drills, on a small scale, on a light, poor, gravelly soil, and on a third farm in pure raw moss, all with the same results. The carbon for the first fortnight appeared by far the most promising, but in November the crop from bones was double the weight of the other. His pulverized farm-yard manure is formed from weeds completely rotted by repeated turning and fermentation, and then saturated with liquid from the folds, collected and carried in drains for that purpose into a covered tank, where it is kept till wanted—to this is added some old trenched manure, the whole well pulverized by repeated turning.—*Inverness Courier.*

ON THE NATURE AND APPLICATION OF MANURES.

FROM LEWIS'S OBSERVATIONS ON EXPERIMENTAL FARMING.

As no department of agriculture would be more under the immediate controul of the manager of an experimental farm than that which includes the composition and application of manures, it might be reasonably expected that he would be able to confer advantages proportionally great upon the agricultural community. It may be said that in no branch of the profession is there more unnecessary waste incurred. Indeed, one of the greatest chemists of modern times has not scrupled to assert, that the dead loss occasioned by the present system of preparing manures varies from one-half to two-thirds on the whole amount, and when we consider that the annual value of manure in great Britain and Ireland is estimated at the gross sum of 20,000,000*l.*, we may form some idea of the saving that would ensue were the process conducted on more sound and scientific principles. At present, we would conclude that there is a loss at least of one-fourth by the system generally pursued.

On surveying the manner in which manures are at present prepared and applied, we are at a loss to detect the slightest approximation to system in the whole process. Whatever may be the rules and axioms to which farmers consider themselves bound to adhere in other departments of their profession, one and all of them seem to think themselves entitled to take their own way in this. The consequence of such an indiscriminate mode of procedure is, that in the general, and (as they think) justifiable negligence, which, if not openly advocated, is at least most sedulously persisted in, the true principles and proper practice are entirely overlooked.

It must be well known to our agricultural readers that it was the opinion of the late Sir

Humphrey Davy, founded upon a series of minute experiments, that manures suffered much loss in their nutritious properties from the decomposition being allowed to proceed too far: and that in order to prevent this, only a very slight degree of fermentation should be permitted.

It is not our intention to defend all the conclusions to which this talented chemist was led. On the contrary we are of opinion that he perhaps carried his favourite principles too far, and that a greater degree of decomposition than what he contemplated is necessary to reduce the fibrous substance of vegetables so far as to afford nutriment to the plants. This, however, is a matter of no great consequence in the present discussion. If his theory be true in the main we can be at no loss to perceive that the present mode of preparing manures so generally followed by farmers, is as much opposed to it as any two extremes can well be. By throwing the dung and litter loosely together into one general mass, as a natural consequence a constant fermentation is kept up, and the gases, which, according to Sir H. Davy, form the only valuable properties of the manure, are exhausted and dissipated in the atmosphere. The soluble, and therefore the richest particles are also carried down to the bottom of the heap by the rain, and thus escape at the lowest point of the area. And it is certainly by no means difficult to conceive that the remaining mass must consist in a great measure of the coarser and least nourishing parts of the deposit. Unnecessary fermentation, however, might be easily prevented by having the heap compressed. This may be done by allowing animals to tread constantly upon it, when suffered to remain in a court. When removed the generation of the gases might be prevented by covering the heap with a sufficiently thick coating of mould.

It is also evident, in a case where there are so many and opposite chemical agencies in operation that the utmost delicacy and attention are requisite to prevent injury. Were the distiller and brewer to allow the fermentation of their worts to proceed beyond a certain fixed period, instead of having a nutritive and palatable liquid, vinegar would be produced; and were they to prolong the fermentation still farther, the residue would become putrid. Similar chemical changes are going on in the dunghill; the vinous, acetous, and putrefactive fermentations successively recur; and according to the common mode in which dunghills are prepared, where fresh stimulants are daily added to the old matter, these three diverse agencies are all in operation at the same time. What, then, must be the nature of that heterogeneous and mongrel product which is finally applied to the nourishment of vegetable life? We are aware that a theory, in all respects opposed to that of Sir H. Davy, has lately been laid before the public, the principle of which is, that the decomposition of vegetables cannot be carried too far, in as much as the product which is thus evolved is an elementary substance, in which all nutrition is centered. Without pretending to decide upon the comparative merits of these two theories, we would only observe, that whether the one or the other be true, the great majority of farmers do not act in accordance with either, consequently in the event of any of them being proved right, their practice must be proclaimed wrong; and when the dictates of science are thus directly opposed to each other, and the opinions of practical men at variance with both, does it not show in

a very strong point of view, the necessity of having an experimental farm, that the whole matter might be submitted to the best of all practicable tests, that of direct experiment.

At present, as Mr. Cleghorn observes, no rule of universal application can be laid down on this subject. The degree of decomposition at which farm-yard dung should arrive before it can be deemed a profitable manure, must probably depend on the texture of the soil, the nature of the plants, and the time of its application.

In general, clay soils, more tenacious of moisture and more benefitted by being rendered cohesive and porous, may receive manure less decomposed than well pulverized turnip soils require. Some plants, too, seem to thrive better with fresh dung than others, potatoes in particular; but all the small seeded plants, such as turnips, clover, carrots, &c., which are extremely tender in the early stage of their growth, require to be pushed forward into luxuriant vegetation with the least possible delay by means of short dung. The season when manure is applied is also a material circumstance. In spring or summer, whether it be used for corn or green crops, the object is to produce an immediate effect, and it should therefore be more completely decomposed than may be necessary when it is laid on in autumn, for a crop whose condition will be almost stationary for several months.

We may be permitted to remark, that amid the many unsatisfactory hypotheses that are daily promulgated regarding this subject in works on agriculture, there is one fact which appears to be most clearly established, although too generally overlooked. We allude to the benefits that result from the application of manure in a liquid state. It has been verified by experience that the liquid essence of the dunghill, when applied to grass during the winter, but more especially in the spring months, has the effect of not only adding to the weight of the ensuing crop, but of making it from three to four weeks earlier than it otherwise would have been. In Holland, where perhaps the action of manures is best understood, they are invariably applied in this state in raising every species of crop. But how stands the case in this country? Liquid manure is almost uniformly regarded as a nuisance, and in order to dispose of it with the least possible trouble, it is allowed to evaporate by the sun, or it is directed to the nearest channel by which it may be conveyed to the ocean. This takes place, with very few exceptions, on almost every farm in Scotland; and when we consider the vast amount of rich and nutritive matter that is permitted to escape in the very same way from our populous towns and cities, the loss sustained is almost incalculable.

It may, perhaps, be said, that the beneficial effects of liquid manure are so well known as not to require any additional exemplification by means of an experimental farm. We have elsewhere observed, that farmers in general are so slow of heart to believe, so tremulously sensitive with respect to every innovation, as to resist all the plausibilities of theory, however fascinating and inviting they may be. In the present instance, although they may not verbally deny that certain advantages may result from the application of liquid manures in certain cases, they excuse their own apathy and neglect by attempting to show that these advantages are more than counterbalanced by the trouble and expense attending the process. Although nothing can be more unfounded, no

mere theorists will convince them of the reverse. Therefore, the very fact of an agricultural truth being so well established, and yet so generally and practically belied, instead of proving against the establishment of an experimental farm, is a very strong argument in its favour, inasmuch as it shows that improvements—real and radical improvements—will not meet with a ready or favourable reception from practical men unless they be promulgated in a practical way.

But further, the operation of an experimental establishment regards not merely the composition, but also the application of manures; and here a new and hitherto untried field of investigation lies ready to be explored. Apart altogether from the preparation of them, it is sufficiently apparent that little or no certainty can be attained in their application, unless the constituent parts of which they are composed, as well as those of the soil to which they are to be applied, and the vegetables to be raised, be accurately ascertained by chemical analysis. The decay of animal and vegetable substances is nothing more than the resolution of organized forms into chemical constituents; and it is a well-established fact, that vegetables when decomposed afford many earthy and elementary particles, which it is more than probable could have been derived only from the soil, or the manures incorporated with it. It is therefore an essential preliminary to successful cultivation that the various elementary ingredients of the soil, and the manures to be applied to it, be ascertained, together with the relative proportions in which they exist, and that those plants only should be raised from it in which the same substances are found in similar quantities, and whose habits are best suited to its texture. For example, clover, when chemically analysed, is found to contain gypsum, or sulphate of lime. When sown successively on certain descriptions of soil, in a four or five years rotation, and carried, it very soon fails.

This of itself affords a presumption that the failure of the clover is attributable to the exhaustion of that substance from the soil by the previous crops. But when it is also established that the cereal crops are altogether destitute of it, and consequently do not take it up from the soil, and that those soils on which the clovers fail are to a greater or less extent deficient in gypsum, the confirmation of the previous conclusion becomes so strong as only to be exceeded by the direct exhibition of gypsum, when applied to such soils, restoring them to their original fertility. This scientific mode, therefore, of applying manures is far from being chimerical, as many of those who plume themselves on being *practical* would have little hesitation in stigmatising it. Independent of the many direct proofs that might be adduced in support of it, we have only to survey the processes of nature in daily operation around us. There we see certain soils better adapted for the production of certain plants than others, solely because of their texture and constituent parts. So uniformly, indeed, is this the case, that in many instances the nature of the soil can be at once inferred from a knowledge of the plant it produces. Thus no one at all acquainted with the subject would hesitate to pronounce that soil *argillaceous* in which tussilago abounded—that *peaty* which was distinguished for the bilberry and heath—that *ferruginous* where the common or sheep sorrel was eminent—and so on with aquatic, calcareous, and saline soils—all of them being almost everywhere indicated by their appropriate plants; demonstrat-

ing most unequivocally that every plant naturally flourishes most luxuriantly and in the greatest abundance in those soils which supply them most plentifully with the chemical substances that enter into their composition.

Now, if this opinion be correct (and the present state of chemical science in relation to the vegetable kingdom goes far to prove that it is so) it is evident that many of the soils at present devoted to the production of those crops which are more common to the agriculture of this country, would receive more permanent benefit from an alteration in their constitution and texture, than from the most abundant supply of the richest manures. The materials necessary for this purpose are generally within the reach of every farmer, being seldom far distant; and although the original outlay may in the first instance be considerable, it will be amply and speedily repaid by great permanent advantages. For, in supplying organic matter, a temporary food only is provided, and on many descriptions of soil much waste is necessarily incurred by doing so; but in altering the composition of a soil, for example in rendering clays friable by a mixture of sand and the reverse—in overcoming a superabundance of calcareous matter, by inducing a stratum of peat—in neutralizing the effects of the salts of iron or any acid matter, by the application of quick lime, &c.—the fertility of the soil may be considered as permanently established. Less labour will be required to prepare it—less manure to enrich it. It becomes capable of attracting a larger proportion of vegetable nourishment from the atmosphere, of supplying the plants with a greater proportion of appropriate food, or if this should be exhausted it is possessed of a greater capacity for receiving and retaining such foreign organic substances as may be incorporated with it, and thus of producing its crops with comparatively less expense.

But what is the present practice? Almost all that is yet known upon the subject is, that the application of manures is necessary to the continuance of production. The farmer no doubt, can tell generally the nature of the soils of which his farm may be composed, but to show how very little importance he attaches to this sort of knowledge, it may be sufficient to mention that, in the great majority of cases, no distinction whatever is made in the mode of cultivating them. Acre for acre—all of them successively receive about an equal quantity of manure, of a similar kind, and almost the same treatment. Can it be doubted then that much of the manure is thus thrown away? and is it to be wondered at that a return proportioned to the expense of cultivation is so seldom received?

It may be asked how an experimental farm is to remedy these evils, since every farmer has it in his power to obtain an analysis of any soils, manures, &c. he may choose, there being many individuals in every county well qualified for the task. We do not indeed expect that the various soils in Scotland are to be analysed and registered by an experimental establishment; but manures may, and all the products of agriculture may. This, however, is not the mode of operation which, in the present instance we would deem the most effective. It is not, however, so much from the individual analysis which the manager of such an establishment might find it his duty to institute and promulgate, that the most substantial benefits would be secured to the country, but from the practical example which would thus be exhibited of the di-

rect advantages to be derived from following out the principles upon which it was founded; and by consequence from the inducements which would thus be held out to every farmer to embark in the same course. Were such the case we have no doubt that the time will soon come when the different species of soil will be so nicely discriminated and classed, and the action of different manures, compound and simple, so accurately ascertained, in so far as it affects any given description of soil, that the farmer will know what particular quantity, and what particular species of manure he ought to apply in every circumstance on each acre of his farm, in order to insure the greatest possible production, and that chiefly by means of authenticated and accurate experiments. Any effort that has yet been made has been directed chiefly to ascertain the relative effects of different kinds of manures, without taking into account the varieties of soil to which they may have been applied; and although the experiments have been conducted on so limited a scale that no great dependence can be placed on the results obtained, still they may give some idea of the importance of the subject, and of how much remains to be done. In an experiment recorded in Messrs. Drummond's Third Report, of the efficacy of various manures in raising potatoes, we note a difference of more than a half between the greatest and least quantities produced; in other words, while one manure raised a weight of 22lbs., another produced only 9lbs. Now, were such experiments conducted on different soils, the component parts of which were accurately understood, and the results faithfully noted and compared, it will be found that the advantages likely to be conferred by such a mode of procedure on the practical agriculture of the country, have been rather under than overrated.

MANGEL WURZEL.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—Perusing your Paper this afternoon of Monday last, I hit upon Martin Doyle's paragraph on Mangel Wurzel, and was more than astounded when I saw Mr. Meadows's calculation of the produce of plants per acre; with due deference to Mr. M., I must beg leave to correct the error, as it is now about the time for planting, some one may be induced to cultivate it that does not understand multiplication, and when he discovers the mistake may attach the blame to your valuable Paper. It is stated by Mr. M.'s calculation that the

	Produce	should be
Drills 2 feet dist.	220 plts. per perch	*68 p. perch
Pts. 2 feet do.	23280 per acre	10890 p. acre
Drills 2 feet do.	147 plts. per perch	*90 p. perch
Pts. 18 inch. do.	23580 per acre	14520 p. acre
Drls. 18 inch. do.	294 plts. per perch	*181 p. perch
Pts. 1 foot do.	47040 per acre	29040 p. acre
Drls. 18 inch. do.	252 plts. per perch	198 p. perch
Pts. 11 inch. do.	40320 per acre	31680 p. acre
Drls. 18 inch. do.	196 plts. per perch	121 p. perch
Pts. 18 inch. do.	31360 per acre	19360 p. acre

Those marked thus * are within a fraction per perch. Mr. M. says, you may safely calculate on 30,000 plants per acre, at 31lbs each, which evidently means 3lbs. would produce about 40 tons per acre. I think it would be better for the grower to calculate on 14,520 plants, at 6lbs per root, which would produce about the same weight.

JOHN FRIEND.

Newington, April 29, 1837.

Where Mangel Wurzel Seed may be had, at 1s. 6d. per lb.

THE ACTUAL CAUTERY & SETONS.

BY THE PRESIDENT OF THE VETERINARY MEDICAL ASSOCIATION.

The President confessed that he had not heard any thing to alter his opinion. Twenty or five-and-twenty years ago, he, in common with his brother practitioners, had recourse to the firing-iron in the various diseases of the limbs of the horse, but without the uniform success which was desirable, and therefore, he began to look out for another remedy. It was not a new one, but it was new in its application. If any credit was due to him, it was for the application of an old remedy to a new and useful purpose—to the cure of those diseases for which there was before no adequate remedy. If we look to our modern authors, they all unite in the recommendation of the cautery in one form or another.—He does not say that it is a cruel and barbarous operation—these are expressions which he never uses. They are like various other operations—like lithotomy—they inflict a great deal of pain, but in the opinion of those that practise them they are necessary, and then the cruelty and barbarity of them disappear. Nicking and cropping are cruel operations, and they should be abolished, by being brought under Mr. Martin's Act. The manner in which Mr. Turner operates seems to be highly disapproved of by some of his brethren—they do not go the same length with him—they do not fire so deeply, and where they do, where they cut down into the newly formed osseous deposit, they only do that which he accomplishes by a less severe application—the knife, employed in that most useful and simple operation, subcutaneous periosteotomy. He would take a rapid sketch of the different parts and the different diseases to which the seton and the firing-iron are applied. Who does not recollect the firing of the hip and the shoulder; the catharine-wheel on the former, and the lines or pencilling on the latter, have given way to the milder and more effectual seton. The same with the stifle-joint; the most ardent supporter of the cautery would now pause ere he blemished this joint with it. The hock, and the knee, contusions and ligamentous injuries of—he had hoped to have had the pleasure of listening to a profound demonstration of the former joint by Mr. Cheetham. He trusted that it was only pleasure postponed for a little while. The actual cautery was more frequently applied to this than to any other joint, and, indeed, than to all of them together. In these joints the cautery had failed to effect that which was daily accomplished by the seton. To sprains from every cause and in every part, the firing had been applied with doubtful success, or with no success at all, both in the superficial and the severe way. To ossifications on the legs, splints from contusions or any other cause, the actual cautery and blisters had been applied, and, up to this very day, without decided success; but they often immediately yield to the new operation which he had had the honour to introduce. The fetlock was a complicated joint, in itself and its various connexions. To injuries of it the blister and the cautery had often been employed in vain; but the seton and the subcutaneous periosteotomy had performed cures without the severity and suffering inflicted by the cautery: and, indeed, without any suffering at all. He had been mistaken by Mr. Sibbald as to ossification of the lateral cartilages; he did not apply the seton to them; he divided the nerves, but in a very different way from that which he should adopt if operating for foot-joint-capsule lameness, called the navicular disease.

The opposers of the seton could not agree among themselves; some advocated the deep and others the superficial firing. Instances could be adduced of death being caused by both of them; but is there the case on record in which the application of the seton has been attended by this fatal consequence? A degree of counter-irritation had been set up by the firing-iron which had baffled all restraint; it had been the same with the blister; colts had been fired for some trifling lameness, or for no lameness at all, and either the former disease had been aggravated, or a new and fatal one set up—ring-bones have increased and inflammation of the joints have ensued. Injudicious treatment may have had something to do with it; but the fact was, that many colts had died after, if not in consequence of, the application of the iron. The custom of firing the colt, for the purpose of strengthening his limbs, is now literally abandoned in the northern counties. The application of the cautery is extensively practised in France and Germany; but if they knew our way of proceeding, they would soon abandon the use of it. They seton much for visceral diseases, but not so much for joints, tendons, and ligaments, as they would do if they knew the benefit of it as practised in this country.

He had in late availed himself of every opportunity that presented itself to ascertain the opinion of sportsmen as to the efficacy of firing their colts and their hunters. He particularly applied to one gentleman whose opinion has great weight in the sporting world. He acknowledged that it used to be the practice to fire the weakly colt, and the hunter at the close of the season, in order to refresh his legs. He had had it done, but he never knew any benefit to accrue from it. He also made the same inquiry of old cavalry officers. It was done in their regiments at the instigation of the farriers, and often since the appointment of veterinary surgeons; but he never knew any good to arise from it, except that the horse had a long rest after so severe an application. He was rather surprised to hear Mr. Youatt, when expounding the law of humanity in a society where it was certainly a little out of place to decry a practice on that ground, avow himself the advocate of superficial firing. Is he not aware that the skin is the most sensitive part of the frame—that its nerves are the guards placed by nature to warn the animal of danger? The chief suffering accompanying the operation is referrible to the surface of the skin, and not to the deeper parts affected by the cautery lesions. He was somewhat surprised at this. For his part, he would abandon the operation of firing altogether—he would abolish it by Act of Parliament if he could. Twenty-five years ago he fired a horse for spavin—the last horse he ever fired. It was as fine a horse as any in the world. The cautery had not the slightest good effect. Some cavalry veterinary surgeons do without it.

In India it is now scarcely ever practised. Many veterinary surgeons there never fire. It was introduced by our barbarian ancestors, and it is mainly practised in all parts of the world by those who had not the advantages of medical and surgical skill and science.

The best authors altogether deprecate deep firing—he alluded particularly to Mr. White, Mr. Blaine, and Mr. Percival—except for ring-bone; but he does not consider that disease to be so desperate as some do, for it has no communication with the capsular ligament near the coffin joint, or with the other ligaments in the neighbourhood, he may employ his periosteotomy knife with safety and success. The fatal cases of firing are numerous; but he does not

know a case in which the seton had left the horse worse than it found him. Even in hot weather, when the blister and the cautery sometimes inflict so much additional suffering, no bad effect had resulted from the application of the seton.

In every case in which the cautery is used, the seton would be equally or more effectual. He does not, indeed, use it in curb; yet a seton introduced between the place of spavin and that of curb is highly useful. In injuries and sprains of the suspensory ligament, he has found the seton more effectual than the cautery. In opened joints, and where, afterwards, the joint had lost much of its suppleness, setons are of admirable use; so they are in the theca of the legs, after the inflammation is allayed.—*Veterinarian*.

THE QUESTION OF A SUPERABUNDANT POPULATION IN IRELAND CONSIDERED, AND REASONS GIVEN FOR DECIDING IN THE NEGATIVE.

(FROM MR. BLACKER'S PRIZE ESSAY.)

I have already extended this treatise to a length much beyond my original intention, but I cannot conclude without endeavouring to answer one objection, which may be made to the opinions I have supported in the foregoing; I allude to my objecting to the expulsion of small holders for the purpose of consolidating farms, in regard to which it may be asked, if this is not done, the population is increasing so rapidly, that as families grow up, subdivision must go on, until at length the whole community will become *paupers*? I might fairly ask in return, how the plan of turning out these families will prevent *pauperism*? It seems to me that the latter plan is by much the surest way to produce such a result. But the most satisfactory answer to the question will perhaps be arrived at, by endeavouring to ascertain how far the apprehensions of a superabundant population, at present so generally entertained, may or may not be justified by facts; for if it should appear that there was land enough in the kingdom for all its inhabitants, now existing, and for as many more as could be anticipated in any reasonable time, and that nothing more was wanting but proper regulations to make it available for their wants, then the objection may be fairly considered to be set aside. In a late publication entitled "Ireland as it was, is, and ought to be," a table is given of the acreable contents and population of each county in Ireland, which may be supposed, at least, so far *relatively* accurate, as to afford data for the following calculations. From this table it appears that the county of Armagh contains 212,755 acres, and a population of 220,653 souls, and that the entire kingdom contains 17,190,726 acres, and 7,839,469 souls; now, in the county of Armagh, by a recent survey, more than one-seventh of the surface is taken up by lakes and unprofitable land, and the remainder is, for the greater part, but indifferently cultivated, and yet the peasantry are better clothed, lodged, and fed than they are in most other countries in Ireland. I cannot, therefore, be accused of taking away from the comforts of the rest of the kingdom, by taking the county of Armagh as a standard, and its proportion of unprofitable surface is not very remote, I believe, from the average of others; if, then, 212,755, the number of acres in Armagh, give a population of

220,653 souls, 17,190,726 acres, the entire contents of the kingdom, ought to give a population of 17,828,888, in place of 7,839,469, the population at present. It therefore, appears, that supposing the other parts of Ireland to be as well cultivated as Armagh, it would support about two and a half times the number of its present inhabitants, and be able to export provisions largely besides, for Armagh, notwithstanding its population, exports pork, butter, and grain in great quantities. But before deciding finally upon the population which the kingdom could support, it ought to be examined how far the county of Armagh (the standard taken) has arrived at its full complement; and in regard to this, I would say, from a pretty general knowledge of it, that under an improved system of agriculture, and a regular rotation of crops, the produce would be *treble* of what it yields at present, and I think this may be considered as practically proved, if I can shew farmers possessing land of average quality, who being induced to change their manner of cultivation in the way already described, are now receiving fully *treble* produce from the identical same farm to what it formerly yielded; but supposing it only to yield *double* as much, it would follow, that the population of Armagh, if that beneficial change became general, might be *doubled* also, without in any degree lessening the comforts of the inhabitants; which increase being taken as the basis of the calculation, and applying it to the whole of Ireland, would make it adequate to the support of better than thirty-five million of souls. When, therefore, it is considered what unexhausted, I might say unexplored, resources remain for the maintenance of any increase of inhabitants that can be expected in any definite period, it must, I think, be evident to every reflecting person, that all fears as to a *surplus population* are perfectly ideal, and that it is its unequal distribution, and not its aggregate amount, which is to be deplored. It may be said that the quantity of waste land in the county of Armagh is below the average of the kingdom, and this I have not the necessary returns, exactly to ascertain, but the proportion in Armagh would give an amount of 3,000,000 of acres of unprofitable land in the whole of Ireland, which cannot be so far from the truth, as in any material degree to affect the result of the foregoing calculation.* If then such be the real state of the question, what, it will be demanded, can prevent the population now in existence from seizing upon comforts so completely within their reach, and applying themselves at once to the cultivation of these immense tracts of improvable land, at present lying useless? The answer to this will lead me to the point I wish to arrive at, and the reply I should give would be, that the *chief* reason was, *the want of security for person and property*, which deters the working classes from attempting to settle in any place remote from their own connexions, and thereby prevents the population from extending itself to the more uncultivated parts of the country, and being thus pent up in particular districts, it occasions land to be almost unattainable, where there is the greatest wish to cultivate it, and leaves it lying idle, where it exists in the greatest abundance. Any one, who knows anything of the state of Ireland, knows that it is not safe in a farmer to emigrate even to an adjoining parish, without paying largely for what is called the good will of the person to

* The commissioners of bogs, in their fourth Report, calculate the extent of waste land that might be reclaimed at 2,830,000 acres, which coincides pretty nearly with the calculation here made.

whom he succeeds, which explains fully the reason why a sum of money, nearly equal to the value of the *fee simple* of the land, is often given to get into possession of a farm under a respectable landlord, in a quiet neighbourhood, although the land may be subject to its *full value in rent*; but to the want of security for person and property may also be added, the want of *skill and capital* in the working population, and the consequent incapacity of those who have *neither*, to attempt the business of reclaiming, which requires *both*, and thus (even where land might be acquired) they cannot proceed, without meeting that support and assistance from the *landlords* which they are, generally speaking, unwilling or unable to afford; and thus things have been left to take their own course from century to century, the local improvement creeping on by degrees, as it happens to be pushed forward by the advancing tide of population in each particular district, without almost an instance of any thing being undertaken upon an extended scale, to bring into cultivation the numerous tracts of country, which would so well repay the sums that might be judiciously expended on them; and the land is left waste, which alone is capable of affording the necessary employment, and the people are left turbulent, discontented, and disaffected, and will always remain so, until employment is provided for them. The existing state of things, therefore, operates as cause and effect: the land lying waste leaves the people lawless and turbulent; and again, the lawlessness and turbulence of the people is the cause of the land being left so.

TO THE EDITOR OF THE ABERDEEN JOURNAL.

Mill of Melrose, May 1.

SIR,—I observed a notice in your *Journal* of the 5th. ult. signed by Mr. Wm. Dockar of Findon, in which my invention of shakers for threshing mills is claimed by him. The same paper also contains an intimation that Mr. Adam Gray of Peterhead had written you on the subject, and that his communication would appear the following week. To the latter gentleman I desire to return my best thanks for the manly and candid manner in which he has expressed himself, and for the flattering terms in which he speaks of my machine.

A report next got into circulation that James Andrew, millwright, had written a long article on the subject, which he intended to publish, and I have waited till now in order that I might have the whole communications before me, so as to answer them in one letter.

The matter is of considerable moment to me, as a practical millwright; and what is still more important, I should consider myself disgraced as a member of society, were I capable of attempting to filch the merit of an invention from any one. The first notice of the matter, although not sent to your *Journal* at my request, was certainly sent with my knowledge and concurrence; and now that I am compelled to come forward in self-defence, I declare, in the most unequivocal manner, that I never received the slightest hint, either directly from Mr. Dockar, or indirectly through any channel, regarding an improvement in shakers by him, until *after the whole parts of my machine were made and ready to be put up*, when Mr. Dockar (after he

had seen them,) told me that he had before made a model for the same purpose, but by the definition he then gave of it, I confess I did not understand it, nor do I yet do so.

Having made this avowal, I shall now proceed to substantiate it. Mr. Dockar says he furnished the model of a shaker in April, 1829, to Mr. Longmore of Rattie', millwright, for the purpose of being attached to that gentleman's mill. But was it ever so attached? No! the fact is, it was given up by Mr. James Andrew (the millwright alluded to,) as impracticable. Enquiry has been made of Mr. Longmore, and he says he considered it too complex. It is rather a curious fact too, that Mr. Longmore is the very gentleman alluded to in your paper of the 29th March, as "an extensive farmer, who had declared that my shaker would save him 20*l.* a-year." Is it not, therefore, passing strange, if he had it in his power to put such a one to his mill in 1829, that he did not do so, and thereby save himself 160*l.*, in the eight years that have since elapsed? But has Mr. D's invention been put in practice anywhere? The answer to this question ought surely to clear up the point. I say, with unaffected sincerity, that Mr. Dockar is, to my knowledge, a gentleman of very great ingenuity and knowledge in mechanics, and he has consequently been employed as the sole adviser and director in putting up threshing machines for several of his friends, since 1829. I ask him, therefore, to say explicitly whether his improved shaker has been attached to any one of these; and I should hope that the answer, which I know he must give, will clear up the matter quite satisfactorily to me. Finally Mr. D. has a very ingenious mill of his own, which goes either with horses or water. Has his own invention been attached to his own mill?

I must apologize for having trespassed to such an extent on your columns, and as I have neither inclination nor talent for carrying on a paper war, I shall not obtrude upon you again, but shall conclude by earnestly requesting every body who may be pleased to take an interest in this matter, to enquire and satisfy themselves whether any little merit that attaches to it is in justice due to Mr. Dockar, or to me, or any one else. With the result of such enquiry, whatever it may be, I shall be perfectly satisfied. I own no partner either by word or deed in the concern.

I am, very respectfully, &c.

GEORGE RITCHIE.

NEW METHOD OF FEEDING CALVES.—M. Labbé, member of the council of administration of the Agricultural Society, finding that the carrot is one of the most nutritious kinds of food for cows, greatly increasing the quantity of milk, and furnishing a richer cream, he reduced half a pound of carrots to a pulp, boiled it four or five minutes in half a pint of water, and added the whole, in two portions, to the noon and evening mess of a calf five days old. The same food, as a substitute for milk, was increased daily, so that on the eleventh day the boiled carrots were given as the entire food, except that after the eighth day a boiled potatoe was added to each of the three daily messes. The calf not only thrived finely, but grew so fat, that on the twentieth day, not intending it for the butcher, they were obliged to moderate the food.

EXTRACTS FROM A JOURNAL OF A
TOUR IN HOLSTEIN.

(FROM THE QUARTERLY JOURNAL OF AGRICULTURE.)

11th August, 1835. Breakfasted with Mr. B. and family, and at 11 set off in Mr. B's carriage, accompanied by Mr. Hector, to Clovensick, near Kiel, where we arrived at 2 P. M., and were received with the greatest politeness by Mr. Hirschfield.

About half-way, the day being very warm, we refreshed our horses with a loaf of black bread and water; the driver and ourselves had each a small glass of Cogniac and water, and the charge for the whole was only eightpence, which, I think, would have been about three shillings in England.

After dinner, walked out with Mr. Hirschfield, and visited the stables. The first contained six carriage and two riding horses, beautiful bays, docked in the English style. Also a long-tailed black horse for the use of the dragoons, every gentleman being obliged to keep a horse subject to the King's order.

This stable is 126 feet long, 44 broad, and 55 feet high; at the end is a carriage, waggon, and harness room. The next stable, under the same roof, was for thirty horses; they stand in pairs. The whole is causewayed, and a space of 20 feet in the middle for thrashing the grain. At the end are rooms for the men, corn-chests, &c., and a space above for about eighty carts of hay, and two tier of grain lofts.

We next visited the cow-houses; the first was 198 feet long, 70 broad, and 60 feet high, with four tier of stalls for 240 cows. The standards were ten inches thick, and between each, a space of nine feet, stood three cows. A trough of solid masonry ran from end to end of the cow-house, about a foot deep and two feet broad at the top, for the food and water. All these houses have doors large enough to admit of a cart of hay passing through. There was a stork's nest on the top of the cow house, with two young ones just ready to fly; this is considered an omen of good.

The next cow-house is 96 feet long, 24 broad, and 30 feet high, with fifty-eight stalls, and a large space to feed young cattle. The space above these two houses, when filled with hay, holds about 400 cart loads. Next, the great barn, 180 feet long, 70 broad, and 65 feet high.

The crops in this country are all housed and thrashed at convenience; and a space of 24 feet broad runs through the whole of the building for this purpose.

The new barn is 152 feet long, 64 broad, and 50 feet high. The dairy-house is 125 feet long, 36 broad, and 50 feet high; and the floor is laid with brick on edge, with a slope toward the centre, through which a small stream of water runs. On the right is a store-house, and a dining-room for the servants, twenty-six in number. The fire-place or chimney is 12 feet broad; on one side is a fixed boiler, on the other large sways for hanging coppers on for dressing victuals, &c.

Next, a neatly furnished room for the head dairy-maid, and behind her's a room for a respectable old man, who superintends the whole of that department. On the opposite side is a large bed-room for twelve females. Returning back to the left is the milk cellar, down a few steps, all brick, but kept very clean. At the foot of the stair stand the salt barrels; that used for the butter is from Lunenburg in Hanover, that for the cheese from Liverpool.

The butter-room is on the left side of the stair,

and is railed round. There were eighty-four casks of butter in it, containing 100lb. each, about half an inch of salt on the top, and the heads laid loosely on—the whole covered with a clean white sheet. There were 500 milk tubs made of oak, twenty inches in diameter and six deep, with four willow hoops. They are washed after being used by six servants, with warm and cold water, ashes and coarse cloths, scrubbers and brushes, and then piled out to dry; if they got the least sour in summer, they were boiled, and underwent the same process. That morning there was on the floor 269 tubs, the produce of three milkings.

A few steps up, on the right of the milk-room, was a cheese-room, in which were deposited 800 cheeses of 22lb. each, all made of skim milk, and very inferior in quality.

On the left of the entrance-door stands the churn, holding about 140 gallons, turned by a mill with a horse from the outside. All the refuse runs through a wooden channel into a trough in the pig-shed, where there were about sixty pigs fattening. Next was the dairy barn, 60 feet long, 28 broad, and 30 feet high, in which stood some English sheep, deer, and a growing stock of young pigs, of the English breed.

The mansion-house is not modern, but very handsome and commodious, 104 feet long, 44 deep, and 40 feet high, and excellent vaulted wine cellars below. Spacious gardens, hot-houses, melon-beds, &c.

The poultry-yard is well stocked; 105 geese, as many turkeys, and other poultry in proportion. The fowl-houses are regularly sparred, about sixteen inches above each other, angling to keep the soil from the lower tiers. In a small room behind were the nests, which were a foot in diameter, and a foot above the ground, and the last laid egg was always left in the nest. This department was in charge of an old woman and boy, and was kept remarkably clean. There was an egg table, with three tier of holes for different eggs, and their dates. The house-keeper had packed a cask with fourteen dozen, in fine ashes, that day for winter use; peacock, turkey, geese, duck, and hen eggs.

12th August. At 5 A. M., walking toward the dairy, I saw ten women employed plucking the fine feathers or down off the breast and upper part of the loins of the geese, with which they filled two large tubs.

The following is the process of the dairy:—In summer one servant rises at 2 A. M. to make fires; the others half an hour later. They skim the cream, and run it through a sieve into the churn; the skim-milk is then thrown into a large tub to make cheese; they then wash the tubs. They have half an hour to sort themselves, and then proceed to the field to milk the cows. Every female has twenty cows to milk; and when her pail is full, which holds about nine gallons, it is emptied into a larger one of twenty-five gallons, which is hooked to a cart that carries it down to the dairy. The milk is then put through a sieve into the tubs holding two gallons each. These large milk buckets, twenty-eight in number, are then washed, and put out to dry, ready for next milking. The churn is broader at the bottom than above, and five of the staves project inward about three inches; the churn-staff works in a socket with an iron spindle. When the butter is churned, it is carried into the butter cellar, and put into a trough of solid wood, with holes in the bottom, where it is wrought a considerable time to work out the milk; after which it is salted, and lies several hours, then it is sprinkled over with salt again, wrought with

the hands, and lies again twenty-four hours, when it is put into the casks.

This process is finished about eight o'clock, when the servants go to breakfast, after which they wash and clean the house, and assist in the garden till noon, when they dine, and rest till two o'clock, when they continue the same operations as in the morning. On Saturday and Sunday they have from eight till two o'clock to themselves.

In winter the same operations go on, with this difference, the cows are kept in the house, and as they do not require so much attendance, the females spin all the wool and flax used for the house and dairy.

A book is kept of every cow's name and number, and the quantity of milk produced from each cow, which is marked four different times in summer, and the calves of the best are kept for the increase of stock, which at present consists of about 240 besides those not giving milk; forty-one young ones in sheds, one and two years old, and two English bulls.

There are twenty-six farm and six carriage-horses (mares), two breeding mares, thirteen young, one to two and three years old, and the stallions Goliath and Sampson, which Mr. Hirschfield has jointly with his brothers and others. In Holstein there are thirteen English stallions, and in Sleswick sixteen, besides the Duke of Austenberg's stud, which is the best in this country, where they are making every exertion to improve the breed of horses and cattle.

The produce of this farm in grain:—Rape-seed, 300 qrs.; wheat and rye, 400 qrs.; barley, 350 qrs.; oats, 1,000 qrs.; potatoes, 700 qrs.; turnips, 700 qrs.; hay, 600 cart loads; back-wheat, 100 qrs.; peas, 90 qrs.; butter, 27 320lbs. (English); cheese, 34,239lbs. (English). Average of each cow, 126lbs. butter, and 159lbs. cheese. The butter is sent to England, and sells from 4l. 10s. to 5l. per cask of 100lbs., on which is a duty of 1l.

A number of pigs are reared annually from the whey and sour-milk, the pork salted and sold to the Hamburg merchants.

Visited Mr. Hirschfield's brother, and met with a very kind reception. Walked through the gardens, and had a very interesting view of Rendsburgh on the river Eider, which leads to the North Sea. About half a mile distant from where we stood is the entrance of the canal which unites the North and East Sea.

13th August.—Drove through Mr. H.'s wood, about 150 acres of fine young oak, beech, &c. Returned through Osterred, belonging to an English lady, the widow of a Russian merchant. There are 320 cows on the estate, besides other stock. The estate is let to a farmer, who has sublet the dairy to another person, who pays fourteen dollars for each cow, about 1l. 16s. annually; they belong to the estate, and must be returned in number and quality at the end of the lease, which is nine years.

Drove about four miles further east to Mr. W. Hirschfield's estate, Gros-nordzee. We walked through very extensive gardens in which were large hor-houses, a hop plantation, and 10,000 fruit-trees, all raised from the seed of 1833—4; each had a pole about seven feet high, and as clean and regular as possible.

There is also a small brandy distillery on this estate, chiefly from potatoes, barley, rye, &c.

There were 180 cows in the byre, and 70 fine oxen fattening for the knife, and a number of young stock.

At ten, returned home, after a most pleasant day's ride. My host, Mr. Gustave Hirschfield, is one of

the most accomplished, mild, and gentlemanly persons I have ever met with; he had travelled through Germany, Switzerland, France, Italy, and Poland. Mr. H. speaks very fair English. His wife is a daughter of my friend Mr. Birch, who is a respectable merchant in Kiel; she is a pretty, agreeable, accomplished woman, worthy of her mother, who is a most amiable, delightful person.

Besides the domestic servants, there were two young men who acted as overseers, one of whom was so polite as to make out for me a plan of all the buildings on the farm.

I cannot forbear mentioning here the neat manner in which the females of the dairy, twelve in number, are dressed, and so perfectly clean; a great contrast indeed to most of them in our own country. Their dress consists of a short gown, with full fashionable sleeves which do not nearly reach the elbow, a yellow, black and scarlet, linsey-woolsey petticoat, blue stockings and sandals, and not a single hole to be seen in any of their stockings. Their hair is neatly braided under a low-crowned cap, and as smooth as possible, not a hair out of place. In the field, when milking, they wear straw hats. The head dairy-maid might have gone to any assembly, she was so pretty, clean and neat; yet she worked more than her appearance bespoke.

I was partly led to visit this farm from an idea I had formed in early life, that the inhabitants of this country were like the Russian vassals, who went in some measure along with the soil. I was delighted to find this was not the case, for whatever restraints were once on the people, they are now removed, for which they are greatly indebted to that amiable man the late Count Barnstoff, to whom an elegant pillar is erected in the neighbourhood of Copenhagen.

Mr. Hirschfield informed me that, when studying at the Agricultural and Veterinary Academy at Möglin, in Prussia, they had 800 acres of ground, on which were 1,000 sheep, for the students to practice on. They vaccinated 400 lambs in one year, and did not lose one, whereas in some neighbouring farms the whole flock was lost. The lambs in Prussia are vaccinated under the tail when about three months old, and fed coolly for some time. Mr. H. afterwards went to the Agricultural and Forester Academy, Hohenheim, in Saxony, where they had 1,000 sheep and 110 cows to practice upon.

The law of Denmark is, that every subject must be vaccinated, and a man cannot be confirmed nor married unless he carries a certificate of being vaccinated, and can read the Bible; nor can a soldier be enlisted without a certificate of vaccination.

14th August.—The clergyman calling yesterday to pay his respects, induced me to inquire how the clergy were situated. I had the following account: The church is placed as near as possible in the centre of the estates or parishes; the clergyman has a salary of 1,000 dollars, about 130l. per annum. The proprietors are the patrons, and take the management of the affairs alternately; the clergyman is secretary. When a vacancy occurs, the patrons each present a candidate, and all the candidates preach on the same day before the inhabitants. The election is managed by each of the four patrons collecting the inhabitants of their respective districts, the majority of whom makes one head voice or vote. Every farmer has a vote, and agriculturists and farm-servants have each half a vote; artificers of every description have a vote. The patrons have each eight votes, but they are the last to give them, that the people may not be in the least biassed. In the event of the votes being equal, the proprietor of another estate is called in, and he has the casting vote.

In Holstein there are three insurance offices. In the first, all buildings on the properties and in the villages are covered, and the tradespeople and poor may have their moveables included at a fair valuation. In the second office, all the grain thrashed or unthrashed, implements of husbandry, and live-stock, may be covered. In the third office, all the growing grain of the estates and small farmers, under a guarantee of the proprietor, may be covered. After a heavy fall of hail, the surveyors examine the crops and make their report; they also examine them again fourteen days before harvest. The proprietors and farmers are themselves managers of these insurance offices.

IMPORTANT TO FLAX-GROWERS.

The following important directions have been widely circulated in Fermanagh. They are from the pen of Mr. W. G. Andrews:—The rapid march of improvement, in every art and pursuit which signalizes the age in which we live, has, of late years, been conspicuous in the staple manufacture of Ireland. Our linen fabrics have extended in variety, and risen in quality and estimation, and do not now require the protection of duties, or the aid of bounties, to enable them to compete with those of the Continent of Europe, either in our own or in foreign markets. Much of this improvement is fairly attributable to the skill and industry which have been brought to bear upon this manufacture, in the construction of spinning mills; and, however we may regret, that the social and moral advantages resulting from the cottage manufacture of linen, which, till lately brought the comforts and blessings of domestic employment to the fire-sides of our peasantry, cannot be so fully realised, under the new system, we must admit the necessity of conforming to the improvements of the age, lest this branch of manufacture should, like others which preceded it, be absorbed by the superior enterprise and capital of our eldest sister, even should we not be overpowered by the superior material and cheaper labour of the Continent. The skill and industry of the manufacturer have, however, unhappily, far outrun those of the farmer, who is content to jog on in the paths of his remotest ancestor. We have got mills to spin the finest yarns; but, to the disgrace and heavy loss of the flax grower, the spinner must go to the Continent for the material, and the irregular, ill-managed Irish flax is consigned to the secondary purposes, at low prices. This fact has, for some time, forced itself upon the observation of the public. The public prints, as the organ of the public voice, have called upon all who could render any information upon the subject, to aid in the amelioration of this fatal defect. Having, for some years, devoted much attention to the subject at home, and much anxious inquiry in the flax countries on the Continent, I shall venture to respond to this call; and as I feel considerable confidence in the soundness of the observations which, I trust, I shall be able to submit to you, and do not fear the task of defending them, I shall not hesitate to attach my signature to this essay. I shall arrange my observations under distinct heads, and shall endeavour to be as brief as I can.

SOIL.—The best soil for flax is a deep, friable, vegetable loam, or a good deep, sandy loam, on a clay subsoil; but, in Flanders, where sand predominates, by good management, superior flax is produced. It may be assumed, that every soil on

which wheat succeeds, is well adapted to the growth of flax; but many soils containing peat, in which wheat cannot be raised with advantage, will yield a tolerable crop of flax, though, in such, the produce will not be commensurate with its promise, when growing. It should not be sown on a dry hill, or on a soil incumbent on gravel or rock, unless there be a deep surface. It is not necessary that the land be over rich; but, of all things, it should be clean and free from every weed. The produce on a rich soil will be greater, but the quality, in most cases coarser. The characteristic of every good soil is, the power to contain a large portion of moisture, without being wet, and to impart that moisture, gradually to the roots of plants. This cannot be attained without *depth*: and every attempt at the improvement of any soil, should include some mode of deepening it. To effect this, various methods have been adopted, but certainly, none so successfully, as the use of the spade, and the soil must be bad, indeed, which will not admit of gradual improvement by that means. In Flanders it has long been in use, at least once in each rotation, with decided benefit to flax and every other crop in the course. The advantages need scarcely be mentioned. Every one who has observed the superior fertility of a well trenched garden, must be aware of them; and the adoption of so manifest an improvement seems to be prevented, merely by the unwillingness to move out of the beaten track, and by an exaggerated idea of the actual cost of the operation. It is stated by Dr. Radcliff, that land can, on the average, be dugged sixteen inches deep, for thirty-two shillings per English acre, taking wages at fifteen pence a-day. I believe this estimate even exceeds the reality, as is proved in the county Armagh and other districts, where spade husbandry has been extensively used, and, I am happy to say, that, in the neighbourhood of Newtownards and Comber, a beginning has been made, with the most encouraging success. Let it only be considered, that by doubling the depth of cultivated soil, you must assuredly double the powers of the soil; and at the beginning of a new rotation, by bringing up with the spade that which may have lain, for some years, unstirred, and putting down that which may have been overlooked, you secure all the advantages which are gained by laying out land, of ordinary depth, to rest in pasture, without incurring the sacrifice, and can proceed upon a much more lengthened and profitable rotation. That the powers of the soil are doubled by doubling the depth, has been abundantly proved, by the experiments of Mr. Falla of Gateshead, in the growth of wheat. Some timid farmers may allege, that, by turning up the barren subsoil, the fertility of the soil is impaired for a time. Let such commence with caution, deepening by an inch or two at one time. Let this be done when the land is in preparation for green crop. Let lime be spread upon the surface, after digging, and brought into immediate contact with the new soil; and the use of a reasonable quantity of farm-yard manure, with the action of the summer sun, will abundantly fertilize it, and by the undoubted success of the first experiment, encourage the observing and industrious man to proceed with boldness and energy. I am earnest on this point, which I conceive of vital importance. Do hearken to the statement, from the best authority, that the produce of land has been doubled by the method recommended; and do not remain supine in a matter of such moment, nor discredit the evidence without a trial; and, be assured, a fair trial will prove that more

can be accomplished by one digging than three ploughings, and that the cost is actually less. Even under the most favourable circumstances, it is wrong to attempt to grow flax too frequently on the same soil. The attempts to do so have proved the source of failure too frequently in Ireland. The very best and deepest soil will not bear flax more frequently than once in seven years; and, on inferior shallow soil, a larger interval must be allowed. The finest crops have always been raised on land but recently broken up from old pasture. In the Netherlands flax is sown after various crops—potatoes, rape, madder, wheat, and oats; but more frequently after wheat than any other; and, on the poorer soils, they frequently apply 2,500 gallons of liquid manure, per Cunningham acre. It generally succeeds best after a white crop, which has immediately succeeded a green crop. The soil is then rich enough, and, by good management, may be made perfectly clean. Some persons have imagined that the use of lime is injurious to the growth of flax; but I think experience will prove, that if lime be applied with a green crop, and followed by a white crop, succeeded by flax, the flax will derive benefit from it rather than the contrary.

PREPARATION OF THE SOIL.—To prepare ground for flax, where wheat or oats has been the previous crop, it should be ploughed, about three inches deep, very early in the autumn; and, at the end of a month, when all seeds of weeds shall have vegetated, it should be well harrowed and well cleaned, and then ploughed very deep, to remain during the winter exposed to the atmosphere, which produces a fine pulverised mould upon the surface, so desirable for the seed bed. In Flanders, the approved method is, to trench the furrows one spit deep, throwing it evenly over the surface of the ridge, which prevents water from lying upon the land, and furnishes a larger supply of mould. It is necessary that the ridges should be very little raised in the centre, when the ground is ready for the seed; and the easiest mode of obtaining this is to plough it round in sets. If the surface be not level, the crop will not ripen evenly, the evil of which will be pointed out under the head of pulling. Before sowing, the ground should be well harrowed, with six or eight rounds of a heavy harrow; and, if the soil be light, it should then be rolled across. The seed should then be sown, and harrowed with two or three rounds of a light harrow, having teeth three inches long; and, on light ground, it may be well to finish by rolling again.

CHOICE OF SEED.—Great caution should be observed in the choice of seed. That which is sound and fit for sowing, should be quite sweet, of a clear rich colour, plump, and free from impurity. The heavier it may weigh by the bushel, the more prime the seed. Before sowing the very best and cleanest should be carefully sifted. Almost all seeds, which are found in it, will pass through a coarse oatmeal sieve, which will retain the flaxseed. Farmers are very much divided in this district as to the superiority of Riga or Dutch seed, but all have agreed to reject American, which is more branched at the top, and therefore loses the more in scutching, as all the fibre on the branches is taken off by that process. Why the American should be preferred in some counties, I am unable to determine. Experience has shown, that a change of soil is, at least, necessary, as no seed is found so quickly to degenerate upon the same soil. The Dutch import Riga seed, and on the

third year export the produce. The first year the produce is very great, but the quality somewhat coarse; the second year it is much finer; and, after the third year, they conceive it begins to degenerate. It would surely be a great acquisition, if we could, by proper management, produce seed at home adapted for our own growth; and an interchange by persons residing at some distance from each other, whose soils are different, might, assuredly maintain it in a state of vigour. Every plant of seed which we cultivate is liable to degenerate in the same soil; and it is only by such interchange that we produce fine samples of grain, or good and productive potatoes. Could we thus succeed in producing flaxseed at home we would certainly have it pure and less mixed. Imported seed must be collected abroad from many growers, as our wheat and other corn are by the dealers here; and no farmers would willingly buy such mixed wheat or barley for sowing. I would strongly recommend, that every grower should save a little good sowing seed. I shall speak of the mode of saving it, under the proper head.

QUANTITY OF SEED.—I recommend a large quantity of seed to be sown upon the ground. In a thick crop the stalks will be longer, less branched, and of finer quality. The better the condition of the land the less the quantity of seed will be requisite. Two and a half Winchester bushels per Cunningham acre may be stated as an average large quantity. The finest flax in the world is produced in France, and converted into lace and cambric. To produce this extraordinary degree of fineness it is sown so thick that it becomes necessary to cover the ground, when sown, with branches of trees, supported on forked sticks, at the height of nine or ten inches from the ground, and the stalks, supported by the branches, will remain erect in the most unfavourable season. The cultivator is amply repaid for all his care and attention: he will frequently obtain six to eight francs per pound; and from a mere hand-breadth of ground will often derive the means of support for his family for a whole year. Flax should be sown as early as the weather will permit, when severe frosts have passed away: the sooner after the middle of March the better.

WEEDING should be carefully performed by the hand, pulling out every weed by the roots; and it should be done while the plants are small, as the injury will then be less.

PULLING.—The proper time for pulling flax is pretty generally known, but the operation is carelessly performed; and, at this point, the irregularity commences, which pervades the whole management of the crop, and has brought discredit upon the character of Irish flax. When the leaf on the stalks, one-third from the ground, shall not only have become black, but fallen off, and when the colour of the seed in the bolls shall be partially changed from white to brown, the crop is in a fit state for pulling, both as respects the fibre and the maturity of the seed. But the crop, in many cases, ripens partially; and, in such cases, it should be pulled as it ripens, as great loss and injury arise either from permitting any part to remain too long, or from pulling any before it has attained the proper degree of firmness. That which grows on the edges of the furrows is, generally, the latest in ripening. It will, also, be of great importance, that in pulling flax of coarse stem it should be kept separate from that of smaller, as the coarse will require less time in the steeping pool, and on the grass. It should never

be pulled but when perfectly dry, as the fibre is easily injured by rubbing when wet. The Dutch are accustomed to lay it on the ground when pulled, for some time. In binding the sheaves, the side which was on the ground is kept out. They afterwards exposed it in the stook before rippling, which improves the seed; but I am afraid to recommend this practice, as the quality might in some cases suffer. Let the flax be pulled in handfuls, of a size convenient for rippling; and lay them on the strap a little crossed upon each other, that they may be easily separated for the riplers. Be careful to keep the root end of the sheaf very even. If any weeds should be still growing, let them be avoided, and the flax only be pulled.

RIPLING.—Ripling in fine weather is performed most conveniently in the fields; and I recommend that it be performed as quickly as possible after pulling. The Dutch Ripple is an excellent implement, and very good specimens were made and distributed by the Linen Board. The process is simple: a slight twist given to each handful at the root with both hands grasping it firmly will spread the tops like a fan, and two pulls through the ripple will complete the work. This process should not be omitted, even if the seed were to be thrown away. By breaking off the seed bolls the water is admitted into the tub composing the stalk, which facilitates the decomposition of the woody part and the separation of the fibre; but it is surprising that so valuable an article as flaxseed should for so long a time have been thrown away. Even where it is determined to pay little respect to the maturity of the seed, in order to ensure the greatest degree of fineness in the fibre, the seed will be valuable, either for feeding cattle or crushing for oil. It is found that, given in small quantities, it is nutritive beyond any other food for cattle, and that it tends in an extraordinary degree to promote their health and vigour, and check any inflammatory tendency, and for crushing it can be sold at five shillings the bushel. Mr. M'Adam, of Belfast, is now erecting an oil mill, and offers that price. Nine bushels from an acre is a very low rate of produce, and the expense of preparation is moderate. The loss of such a quantity of seed, both to the nation and to individuals, is most serious; and the carelessness which permits it unpardonable. The estimated breadth of land sown on the average, in Ireland, for ten years, was 87,106 acres. The seed, at 45s. per acre, would, therefore, be worth 195,988*l.* Surely, such wanton waste of property will not be continued. When the bolls are separated from the stalk by the ripple they are so green as to have a tendency to heat. They should not, therefore, be allowed to accumulate, but riddled, and spread upon a winnow cloth, and soon after passed through fanners, which will blow off the green leaves, and facilitate the preservation of the bolls. If spread not deeper than three or four inches on a boarded floor, a free current of air being admitted, and turned for a time twice, and afterwards once in the day, they will soon become quite dry, and if the weather be fine it will be useful to spread them during the day upon a winnow-cloth in the sun, returning them at night to the loft. Small farmers who have not a boarded floor may with attention dry them sufficiently on a cloth in the sun, carrying them in the cloth into a house at night. The less the bolls are broken the better the seed will keep. By breaking the bolls with a wooden mallet, and passing them when broken

through barn fanners, the seed will be separated from the chaff; and even the chaff will be found a wholesome and nutritious mixture in the food of cattle. So great is the benefit to the flax by taking off the seed before steeping, and so valuable is the seed, even for feeding or crushing, that even in a very wet season it should be taken off, though it might be necessary to resort to a corn kiln in order to dry the bolls. If such an alternative become necessary, let the heat be very gentle. To obtain seed in the highest perfection for sowing, a small portion of the crop should be permitted to stand on the foot till the seed shall have nearly all changed to a brown colour. It should then be stooked till dry, and stacked or housed till Spring, when very gentle lashing will beat off the seed, which will then be in superior condition. The flax should then be kept till the season of steeping the new crop, when it should be put into a pool by itself, as it will require longer time in the water than green flax. The deterioration in the quality of this portion of the crop will be more than compensated by obtaining seed of prime quality for sowing.

STEEPING.—In every stage of the management of this crop, the most minute regularity is necessary, and in this, more than any other. The water should be soft, and free from any mineral solution; and the pool should be stagnant, with a clay bottom, or lined with clay, that the water may be retained. It should, if possible, be situated near to a stream, from which it can be filled, some time before use, and an additional supply derived in case of exhaustion. It being of importance that the pool should be well filled; but no current should be permitted to pass through it, the effect of which is hurtful, by destroying the richness of the flax. It is said, that the whiteness and the hardness of the Russian flax arise from much of it being steeped in running water. The Dutch are so careful in procuring proper water, that they will send their flax to any distance to obtain it. The flax plant contains a large quantity of resinous gum, which it is necessary to dissolve and to discharge by fermentation and washing. The rind, before fermentation adheres like the skin of an ozier. By steeping, the fibres are disengaged, and the object is to effect this, so that they shall separate and split finely on the hackle, without impairing their strength. Much of the vegetable dye is also disengaged by the fermentation. In so delicate a process, the necessity of skill and attention must be obvious. The plan pursued by the Dutch seems, in most particulars, to be completely efficient. They recommend that the pool be eight or nine feet wide, and not less than three-and-a-half in depth; and of these dimensions, fifty feet in length is expected to contain the produce of an acre. To secure an equal fermentation throughout, the flax should all be in the same state as to ripeness and dryness, and that which is of a coarse stem should be kept separate from that which is fine, as recommended under the head of pulling. The exposure upon the ground, for some days, and afterwards in the stook, which the Dutch practice, in order to improve the seed, is, I fear, dangerous to the fibre. From experience, I have found it very difficult to secure so uniform a state of dryness as is necessary to preserve perfect uniformity of colour, and equal strength of fibre throughout; and if one part be tender while another is firm, the loss in cleaning will be serious, and the value of the whole greatly impaired. If this plan of exposure be adopted,

the greatest care should be taken in binding the sheaves and stocking, that the side which lay upon the ground should, in the stook, be exposed to the weather; and, if by good management, the plan can be made to answer, the seed will certainly be much improved, and will be saved with little difficulty. The bundles of flax, when prepared for the pool, should be small, about six inches in diameter, exactly equal in size, and tied very loosely, about six inches from the root end, with a single band of a few rushes, properly prepared by beating. The filling of the pool should be commenced, at one end, by laying a row of bundles across, with the top downwards. The butts of each succeeding row should reach to the bands of the preceding; and, when the pool is filled in this regular manner, there is every chance of equal fermentation, the top of the bundles being at the bottom of the pool, where the fermentation is least strong from the temperature being lower. Were the tops exposed to a strong fermentation, they would become tender. I do not approve of covering the flax in the pool with mud, from the bottom, as practised in Holland, as I have found that it injures the colour; but it is highly important that it should be covered with straw or dried weeds to exclude the light, and that some kind of boards should then be laid on, and equally loaded with stone, or sods, so as to sink it regularly in the water. During the fermentation, the whole mass becomes buoyant, and a considerable escape of air bubbles is observable. When the escape of air ceases, the flax loses its buoyancy, and begins to sink, which is a good indication of the fermentation being complete, and of the proper time to take it from the pool. The length of time required for steeping, varies from six to ten or twelve days. In warm weather, it should be examined every day after the fifth, by taking a few stalks from the inside of a bundle, in several parts of the pool, and breaking them from top to bottom. The wood should break short, and separate easily from the rind, but the rind must not be allowed to become tender. A two-pronged fork should be used in throwing it upon the bank. Care should be taken not to handle it roughly; and it should remain sometime upon the bank, to drain, before spreading. The same water should never be used for a second parcel; but weeds, and every matter susceptible of fermentation, may, with advantage, be thrown into the pool, after the flax is taken out, in order to absorb the vegetable matter and be converted into manure.

SPREADING ON THE GRASS.—A meadow lately cut is the most desirable spread-ground for flax. When the seed has been taken off by the ripple, the spreading can be done with much more ease and regularity, as it separates more easily; and it is of great importance that this operation should be accurately performed. It will generally require a week upon the grass; and occasional showers are useful. The effect of spreading is, to improve the colour and complete the separation of the fibres. In Holland it is customary to turn it upon the grass, which is easily and quickly performed by women with poles, of about eight feet in length, which they run under the tops, in lengths of five feet at a time, and lay it over with one turn of the hand. This operation, certainly tends to equalize the colour; but, in blowing weather, if the situation be exposed, it is afterwards more liable to be tossed. When it is ready for lifting, some of the stalks will frequently appear like a bow, the fibre having separated from the woody part, and con-

tracted. A good test of its being ready to lift is to rub a few stalks from the top to the bottom, and when the wood breaks easily and separates from the fibre, leaving it sound, it has had enough of the grass; but the most certain test is, to prove a small quantity, with a hand brake or scutcher or in a flax-mill. It should only be lifted when perfectly dry; and, if the weather be fine, it will be better to leave it a day or two in the stock, before housing or stacking it. In some districts the pernicious practice of drying flax upon kilns, before breaking, is still in use. The rich oily property of the flax, which is its first quality, is hereby greatly impaired; and such drying is wholly unnecessary, if due attention be paid to housing or stacking the flax, perfectly dry, and keeping it well thatched, and raised from the ground.

ROLLING is generally performed in this country by mills, the expedition of which is a great recommendation to the extensive grower; but, in my mind, the work is neither so efficiently nor so economically performed by the mill as by the Dutch brake, by which 28lbs. in the hour can be well prepared. The instrument costs, perhaps, seven shillings, and will last for a lifetime. I strongly recommend small farmers to make a trial of this implement. It is worked with the hand, and will furnish employment in wet weather; and the flax can be completely prepared for scutching in the premises of the farmer.

SCUTCHING, in Holland, is also performed in the most perfect manner, by the hand, the staple of the flax being less injured, and better prepared for the hackler than by any other method I have seen. The mills in general used in this country are on a bad principle, and the mode of payment for cleaning, by the stone, is most objectionable. The owners of mills, and the workmen, are more intent upon finishing a large quantity than upon executing the work well or preventing waste. Every arrangement is calculated to expedite the work; and, unfortunately, such expedition necessarily produces waste. Rough flax, which has been well managed, should yield, when cleaned in the most perfect manner, a fifth part of its weight; and, in many of our mills, not more than a seventh will be returned. The mills are driven much too quickly, and the scutching arms are generally too long. Little injury is done at the first or second scutching stands, the blade being kept blunt and round in the edge, and at considerable length from the stock; but at the third, or finishing stand, they are kept sharp, and are worked very close to the stock, and the destruction of the fibre is generally very great. Having observed this defect many years ago I made many experiments with a view to remedy it; and satisfactorily proved that if the axle, on which the finishing blades are fixed, be driven by a belt, and at a speed of a 150 revolutions in the minute, instead of 220, which is common, the produce will approach more nearly to that of hand scutching. I found also, that five blades are much less wasteful than four. This point is of great importance. In cleaning 10 cwts. of rough flax, the difference between the produce of a fifth, which is quite attainable, and a seventh, which is common, will be sixty-four pounds.

I have thus endeavoured to submit to you the results of my experience upon this important subject, with as much distinctness and as much brevity as I could. I am not without the hope, that what I have written may promote attention and inquiry, and lead to still further improvements than I have yet been able to effect. The field

is ample, and the prospect encouraging. The increasing wants of a world, advancing in civilization and wealth, cannot fail to reward all the industry and enterprise which may be brought to the improvement of a manufacture which produces the most useful, the most durable, and the most beautiful fabrics. Ireland possesses many advantages and facilities for maintaining and advancing her superiority. I am not aware that we are now surpassed in any branch of this manufacture, fine cambric and lace excepted, by any country in the world. Even our damask now equals, if it does not surpass, that of Silesia, as will be seen, by comparing the manufacture of my relation, at Ardoyne, with the most perfect specimens that have ever been imported. But I must, in conclusion, repeat the lamentation uttered at the commencement of this address, that we are forced to go to the Continent for the material for our finest yarn, though our own soil and climate are so well adapted for its production. I trust the day is not far distant when this shall cease to be a reproach to the Irish farmers.

THE PRACTICE OF FALLOWING EXPLAINED ON NEW SCIENTIFIC PRINCIPLES.

BY JAMES RENNIE, A. M.

PROFESSOR OF ZOOLOGY, KING'S COLLEGE, LONDON.

It is little to be wondered at that the practical farmer, more perhaps than any other practical man, is in the habit of laughing at book knowledge and book theory. When I was a lad, being a great reader, I soon got through the scanty supply of amusing books within my reach, and not unfrequently had recourse to others which are seldom opened, either by the young or old. Amongst the books of the latter sort which came in my way were Lord Kames' Gentleman Farmer, Mortimer's Husbandry, and the Bath Society's Transactions; and out of these books I had the impertinence to speak with an air of authority to the Ayrshire farmers, who only laughed at me, as might have been expected, for my pains. In some things, indeed, such as the levelling of the old high-crowned ridges, they allowed my books to be right; but as a general principle, they disclaimed all confidence in book authority, inasmuch as it was for the most part opposed to their own experience, and to the traditional practice inherited from their grandfathers.

I am sorry to say, though we are certainly making great improvements in book knowledge, and in scientific explanation, that the prejudices which I encountered in Ayrshire between twenty and thirty years ago, and which at this moment are widely spread not only over this country, but over all Europe, are too well founded. What is commonly called the theory of agriculture, such as it is treated in professed treatises and in Encyclopædic articles, is, with a few exceptions, a miserable tissue of absurd reasoning, the most contradictory principles, and floundering about in the dark.

Some little light, however, has begun to break in upon what has so long been mysterious; and we only want a few such experimenters as Polydore Boullay, Macaire, Biot, and Girou de Buzareingues, to render the theory of agriculture

as consistent, at least, if not so lucid, as the well-known practical results. Among our own inquirers, Darwin, Knight, and Keith, have stood almost alone in this department; for though Sir Humphrey Davy exerted his splendid talents in the investigation of the chemical principles applicable to tillage, he was, there can be no doubt, far from successful, and propagated very serious errors, which his deservedly high authority in other matters tended to diffuse. These errors of theory, when unfortunately applied to practice, led, as was unavoidable, to considerable losses, and gave practical men so deep-rooted a prejudice against science, that it is not easy to persuade many of them to look into a book connected with their pursuits. As things have hitherto stood they are quite justified; but if all men were to abide by the prejudices of practical farmers against the science and the theory of agriculture, improvement would be at a stand-still, and no advance would be made in giving fair and good reasons for following the practice which experience tells them is the best they can adopt.

Next, indeed, to the knowledge of what is best to be done in practice, is the knowledge of the reasons why one mode is better than another mode. Now, *these reasons are in fact the science*, and the farmer who does not know a good and satisfactory reason beyond use-and-wont or hap-hazard experience, for adopting a certain rotation of crops—for liming one sort of soil and not liming another sort—for planting or sowing thinly rather than closely—and, in short, for all his various processes and operations, must be pronounced to know little more than half his own business. Ask any farmer prejudiced against theory, and science, and books, what has spread the red-rust over his wheat, and he will tell you, with the utmost confidence, that it came from a barberry bush in the hedge though it is scientifically demonstrable that the barberry bush has no more to do with it than if it had been growing at Botany Bay. Ask him, why wide sowing produces heavier crops than close sowing, and he will tell you it is because the plants have more room and more air—good things in their way assuredly, but only secondary to the powerful influence of the sun's light in preparing the pulp in the leaves—a principle of which the unscientific and non-reading farmer would never dream, but without which all the air and room in the world would not make the plants grow healthily for one week.

Looking at the matter in this light, I think no more important object could occupy the attention of the agricultural reader, than an inquiry into the reasons why the chief processes in agriculture are more successful in some circumstances than in others; for if these reasons are once discovered, and the facts connected with them established beyond controversy, like many of the facts in practical chemistry and practical mechanics, then the farmer will have a sure guide in his operations, and will be as superior to the old farmer of hap-hazard experience, as the modern mariner with his compass is to the mariner of the olden time, who dared not advance out of sight of land for fear of losing himself in the pathless ocean.

PRELIMINARY FACTS.—Before coming to the subject announced at the head of this paper, I must presume the reader to be aware of the following facts:—

1st. That plants, as well as animals, can live and grow only when they are supplied with appropriate food, and that in due quantity; for, all

other things considered, quantity is both to animals and plants always more important than quality.

2dly. That the food of plants must all be dissolved in the water or moisture of the soil, before it can enter the tips of the root fibres, where the mouths, if I may call them so, are situated; and when the water of the soil is too scanty to dissolve the food, the crops must be famished; when the water is rendered too thick by rich manure, they must be choked or gorged; when it contains too little of the common air, or any deleterious substances, such as the ammonia of fermenting dung, they will become sickly; and when it stagnates about the roots, they will be macerated and rotel.

3dly. That the food of plants, like that of animals, must, before it can afford nourishment, be properly digested.

4thly. That the digestion of plant food can only be effected by the sun's light falling on the leaves or other green parts: I might have said, in free air, but there is little danger of agricultural crops not having free air, provided they have free exposure to the sun's light, which is quite indispensable.

5thly. That in plants, as in animals, there are portions of the food taken quite indigestible, as well as portions of the body deteriorated by use, which portions are excrementitious, and are thrown out as refuse into the air around, and into the earth beneath.

6thly. That these excrementitious matters in the case of plants injure the air and the soil in which they become diffused; and hence it is as indispensable to good cultivation to have the air purified by promoting its free circulation, and the soil purified by other processes, as it is to supply a sufficient quantity of appropriate food by means of manure and of moving (not stagnant) moisture.

These facts being premised, we shall have a firm basis to travel upon in following out the important process of fallowing, which I now propose to discuss, both with reference to the preceding facts and to what appear to be the grossly erroneous explanations and contradictory statements to be found in works on agriculture.

FALLOWING.—A fallow, according to the description of M. De Candolle, "consists in this,—that every three or four years a certain portion of land is left completely vacant, or, as it is said, at rest. This year of rest is devoted to labours more or less multiplied." By others, it is more narrowly described as "the clearing of lands from weeds, that the future crop, whatever may be sown on it, may possess the whole energy and strength of the soil." "Be it known unto all men," says Marshall, "the main purport of fallowing is to destroy weeds." Sir H. Davy describes fallowing as a "very ancient practice still much employed, in which the soil is exposed to the air, and subjected to processes which are purely mechanical." Ancient the practice certainly is, for it is recommended by Virgil:—

"Alternate too thou shalt permit to rest
The late shorn fallows, and the idle mould
To harden."

And again,—

"That thilt at last rewards the greedy hind,
And answers all his hopes, which twice had felt
The sun and twice the frost: by this manure
Harvests immense shall burst his crowded barns."

TRAPP'S *Virg. Georg.*

All these descriptions of fallowing, except De

Candolle's, involves theoretical notions respecting its effects, which in this stage of the inquiry I wish if possible to avoid, till a clear notion be come to as to what process the term fallowing is applicable. So far as I understand the term, then, it is applied to land kept out of crop from the autumn, through the succeeding winter and summer, till autumn again; during which time, it is ploughed more or less frequently, both lengthwise and across, and sometimes harrowed with the view of breaking the surface clods, and of collecting the surface weeds, particularly couch-grass or quickens.

EFFECTS OF FALLOWING.—This, then, being understood to be the process of fallowing, we have now to look to the effects produced by repeatedly turning over the soil with the plough, breaking it with the harrow, and of course exposing it to the influence of the sun's light, and of the passing air, from which it is unshaded by a growing crop.

A great deal too little attention has been hitherto paid by practical cultivators to the influence of the sun's light. In our preliminary facts, we have seen that it is the principal agent in the digestion of the food of plants; and I have now to show that it seems to be the principal agent in benefiting land during the process of fallowing. In bleaching linen, it is well known that no artificial process will produce the same effects as exposure of the moistened goods to the summer sun; and, in the case of coloured prints, the sun will frequently discharge the colours without any other apparent agency. At Shaness Castle, near Antrim, I observed, several years, that some chintz furniture in a room, exposed both to the direct light of the sun, and to reflected light from Loch Neagh, was rendered nearly white, though parts of the same furniture, not thus exposed, had the colours as bright as they probably ever had been. It is also known to chemists, that, by exposing moistened horn silver (white *chloride* formerly *auriate* of silver) to the sun's light, it becomes blackish in two or three minutes, while it takes a long time to produce the same effect in the day-light, out of the direct rays of the sun. Numerous similar instances of the chemical effect of the sun's light might be adduced, from all which, it is fairly to be inferred, that it acts by decomposing or otherwise changing the nature of the substances it acts upon.

As the sun-light, then, acts upon the dark-coloured and vegetable substances diffused through unbleached linen, and causes it to disappear from the goods in the same way it acts on the *dark* excrementitious matter turned up to the surface in the process of summer fallowing, decomposes it, and renders the soil lighter in colour, and more wholesome in quality for the succeeding crop. This effect of the sun upon the colour of a dug-up soil may have been remarked by almost every reader, though the inference probably has now been made for the first time, that this paling of the colour of the soil is, in fact, caused by the light decomposing the dark excrementitious matter thrown into the soil by previous crops, which could not otherwise, than by fallowing, be easily got rid of, as no other decomposing agent could be brought to bear so extensively on a ploughed surface as the sun's light.

The agency of the air appears, next to light, to be the most important in clearing the soil of excrementitious matter; for, even when decomposed, this matter might remain and prove injurious were it not raised into the air by evaporation, and carried away by the wind. Professor Daniell

tells us, that the same surface which, in a calm state of the air, would give off 100 parts of moisture, would yield 125 in a moderate breeze, and 150 in a high wind; but what is of more importance to be remarked here, with regard to fallowing, is that, according to the experiments of Mr. Curwen, there is only a very small evaporation from an unploughed or undug surface, while, from an acre well ploughed and harrowed, no less than 950 pints of moisture (containing, of course, a portion of excrementitious matter) were carried off into the air in the space of one hour.

Indeed, it does not appear that it is in all cases requisite for the excrementitious matter to be decomposed by the sun's light, inasmuch as the watery portions thereof may be evaporated without being separated into the gases that compose them; but decomposition will be indispensable before the solid portions of the excrementitious matter can be cleared away from the soil.

In the latter case, namely, where solid excrementitious matter must be decomposed in order that it may be expelled, water or moisture will be indispensable in the process, for as the grass-bleacher must keep his linen wetted or moist, to ensure the full effects of the sun's light in whitening his cloth, so must the fallowing farmer have his ploughed land somewhat moist, to ensure the full effects of the sun's light in rendering the soil paler by decomposing the dark excrementitious matter.

Some may here object that a dark colour is one of the best marks of a rich leamy soil; but the dark colour of a soil loaded with excrementitious matter, is as totally distinct from the dark colour of a rich loam as a black barren peat-hog is from the colour of leaf-mould. The barren peat, indeed, is much of the nature of the excrementitious matter, and those gardeners who know not how to distinguish this barren peat from the sort of fertile peat soil, which is in some respects like leaf-mould, will be certain to injure, instead of benefiting, the American or other plants for which they may use it.

SOILS ADAPTED OR NOT ADAPTED FOR FALLOWING.—From these principles, then, the effects of fallowing may be plainly and unequivocally deduced, and it may thence likewise be inferred what sorts of lands will be most benefited by the process. "It is now admitted," says Sir John Sinclair, "that on all light soils, where the turnip culture can be practised, fallows are unnecessary; and that on strong lands, under a judicious system, they are not essentially necessary more than once in the course of a rotation." "However necessary," says Cleghorn, "the periodical recurrence of fallows may be on retentive clays, its warmest advocates do not recommend it on turnip soils, or on any friable loams incumbent on a porous sub-soil; nor is it in any case necessary every third year, according to the practice of some districts. On the best cultivated lands it seldom returns oftener than once in six or eight years."

This doctrine agrees with the agricultural report of Mid-Lothian, where it is said, that on light dry soils it is seldom found necessary to fallow; but heavy or wet lands are not so pliable under green crops, and although it is possible to labour them also without fallowing, yet it is found to be more profitable to have recourse from time to time to this process, and its operation is generally more effective and lasting on such soils, so that it is seldom necessary to be repeated more than once in seven years. In the reports of Staffordshire

and Kent, we are told that fallowing for wheat on cold, wet, or strong lands, and on all such as are unfit for turnips, is absolutely necessary; and whoever may attempt to manage such lands without fallowing, will have occasion to repent his mistake. In mixed soils, indeed, it is added, too moist for turnips, summer fallowing becomes absolutely necessary, and every attempt to crop without it for any length of time on such land, has terminated in the injury of the land, and the loss of the farmer.

According to the Rev. Mr. Headrick, in the communications to the board of agriculture, strong clays require a more frequent repetition of fallow than those soils that are dry and friable, from containing a greater proportion of sand. In those districts where excessive rains abound during summer, it is seldom convenient for the farmer to be encumbered with too great a portion of fallow, as it is often impossible to get it properly wrought, before the land be turned into mire, if the finest parts of the soil be not washed away.

Among practical men, therefore, it appears that there are scarcely two opinions about the sorts of soil requiring to be fallowed, and it will be found to agree precisely with the explanation of the effects of the process, that in light friable soils the excrementitious matter will readily escape by evaporation, or where the under soil is porous, may be carried down into it by the descending moisture; while in stiff and heavy soils the excrementitious matter is lodged and imprisoned in every clod turned up by the plough, and will require to be broken by the roller and the harrow, to set it free and expose it to the sun's light, and the process of evaporation.

From this it will also be obvious, that it is summer fallowing which is the efficient process,—not winter fallowing, when the sun's light has little power, when evaporation goes on but slowly, and when the greater moisture over the soil holds the clods more tenaciously together, and consequently prevents the escape of the excrementitious matter with which they are charged.

I trust that these principles have now been put with sufficient clearness, not to require my following them out into more minute detail,—a thing which every practical man may readily do for himself, when once he understands the facts upon which the explanations I have here attempted must rest. It may be well, however, to see in what manner my principles will affect the theoretical, and in many cases principal, explanations hitherto given of the effects of fallowing.

PREVIOUS THEORIES OF FALLOWING.—The most ancient explanations of fallowing, such as that of Virgil, refer to the *repose* or *rest* of the land. "Those," says Kent in his report of Norfolk, "who talk of resting land, seem to consider it of the nature of an animal, which undoubtedly must have rest as well as food, to go through labour; but surely this does not hold good when applied to the nature of land." "The ground," said his Majesty King George III., "like man, was never intended to be idle."

Unless, indeed, we should fancifully endow the soil with nerves and muscles, whose energy might be exhausted by exertion, this doctrine of rest would never account in the slightest degree for the well-ascertained effects of fallowing.

The other most prevalent theories of fallowing are, that it destroys weeds both in the root and the seed; that it kills insects by starving them; that it opens and pulverizes the soil; that it gives

time for the decomposition of vegetable matter left in the soil; and that it husbands this without expending it on the nutrition of a crop. Most of these, it is obvious, are very secondary matters, and some of them so wholly imaginary, as applied to fallows, that several writers of high reputation, such as M. De Candolle and Sir H. Davy, seem to hold fallowing to be an unnecessary and uselessly expensive process.

"The advantages obtained," says M. De Candolle, "are the moving of the soil, rendering it more favourable to vegetation, and the destruction of injurious weeds; but it is evident that it leaves a considerable tract of land entirely vacant; that it requires a multiplicity of labour to destroy the weeds, whose growth is more fostered than checked; that it gives little encouragement to the culture of pasture land; and, while it produces no sort of manure, it requires as much as unfallowed lands; and, to conclude, in proportion as population increases, land becomes more valuable, and it is therefore desirable to make it yield, if possible, a crop every year." True; but if M. De Candolle were to recommend feeding pigs or horses on food mixed with a proportion of the cleanings of the sty or the stable, he would get no practical man to try such a method of theoretical economy; and this I conceive to be a case not very dissimilar to culture without fallowing, at least on retentive soils. To use the words of Cleghorn, "all the crops, and all the modes of management which have been proposed as a substitute for fallow, are well known to such men, and would unquestionably have been adopted long ago, if, upon a careful examination of the advantages and disadvantages on both sides, a bare fallow was found to be unprofitable in a course of years." A practical correspondent of Sir John Sinclair goes even so far as to state, that, upon strong clays, with a retentive under soil, "naked fallows every fourth year can alone enable the farmer to pay a high rent,"—a statement which I firmly believe to be correct on the principles already explained.

I may be permitted now to quote, in more detail, the theory of Sir H. Davy, whose erroneous views in this, as well as in other instances, have, I fear, done no little injury, particularly among scientific and gentlemen farmers, who may have regulated their practice on his high authority. We have already seen that Sir H. Davy considers the process of fallowing to be "purely mechanical." He elsewhere says, "the chemical theory of fallowing is very simple. Fallowing affords no new source of riches to the soil. It merely tends to produce an accumulation of decomposing matter, which, in the common course of crops, would be employed as it is formed. And it is scarcely possible to imagine a single instance of a cultivated soil which can be supposed to remain fallow for a year with advantage to the farmer. The only cases where this practice is beneficial, seems to be in the destruction of weeds, and for cleaning foul soils.

"The benefits," he goes on to say, "arising from fallowing, have been much overrated; a summer fallow, or a clean fallow, may be sometimes necessary in lands overgrown with weeds, particularly if they are lands which cannot be pared and burnt with advantage, but is certainly unprofitable as a part of the general system of husbandry.

"It has been supposed by some writers, that certain principles necessary to fertility are derived from the atmosphere, which are exhausted by a

succession of crops, and that these are again supplied during the repose of the land, and the exposure of the pulverized soil to the influence of the air; but this, in truth, is not the case. The earths commonly found in soils cannot be continued with more oxygen; some of them unite with azote; and such of them as are capable of attracting carbonic acid, are always saturated with it on those soils in which the practice of fallowing is adopted. The vague ancient opinion of the use of nitre, and of nitrous salts, in vegetation, seems to have been one of the principal speculative reasons for the defence of summer fallows.

"Nitrous salts are produced during the exposure of soils containing vegetable and animal remains, and in greatest abundance in hot weather; but it is probably by the combination of azote from these remains, with oxygen in the atmosphere, that the acid is formed, and at the expense of an element which otherwise would have formed ammonia, the compounds of which are much more efficacious than the nitrous compounds in assisting vegetation.

"When weeds are buried in the soil, by their gradual decomposition they furnish a certain quantity of soluble matter, but it may be doubted whether there is much useful manure in the land at the end of a clean fallow, as at the time the vegetables clothing the surface were first ploughed in. Carbonic acid gas is formed during the whole time by the action of the vegetable matter upon the oxygen of the air, and the greater part of it is lost to the soil in which it is formed, and dissipated in the atmosphere."

The principles which I have been anxious to press upon the attention of the reader in the preceding pages, will show the vagueness and fallacy of most of these remarks, obviously derived from very partial views, and too narrow an acquaintance with practical results. The reasoning of the author, however, as Hayward well remarks, proves the possibility of staggering even truth itself by a plausible theory, when practical observation is not brought to aid the judgment; but though Hayward perceived great defects in Sir H. Davy's theory, he did not himself hit on the true explanation, though he comes as near it as was perhaps possible from his not being aware of the excrementitious ejection of plants. It will be unnecessary to go into any more of the speculative views either of the modern or more ancient chemical philosophers, who, for the most part, show only a smattering of practical knowledge to direct them. I shall therefore direct attention now to the theoretical views of more practical writers, which are scarcely more correct than those of the closet or laboratory speculators; and here it is that the controversy to fallow or not to fallow has raged most keenly, I might rather say virulently. The disciples of Tull and the drill system discard all fallowing as a useless loss, while others are no less positive of its being advantageous and profitable.

Marshall, and Brown of Markle, are two of the keenest advocates for fallowing, though not by any means for the same reasons. Marshall is of opinion, that the chief benefit of fallowing is "to destroy weeds," and its secondary benefit "to meliorate the soil." "By an eighteen months' fallow," says Marshall, "by which only one year's rent and taxes are sunk, and one crop nominally lost,) assiduously conducted through tolerable seasons, and followed by a spring crop (or no grain crop) and cultivated herbage—the

most foul, degenerate, churlish, sluggish soil, may be cleansed, pulverized, ventilated, rarified, and roused into profitable action for some length of time. By the help of beans and cabbages in rows, with wide intervals, duly cultivated, strong lands, that are suitable for those crops, may afterwards be kept sufficiently clean, and in sufficient tillage, for many years; as ten fifteen, or twenty,* according to seasons, and the attention of the cultivator. But whenever a state of foulness, or a want of tillage returns, he must be an ignorant or an improvident husbandman, and unfit to partake in the cultivation of a circumscribed territory, who neglects to repeat the operation of fallowing:—not by merely “summer fallowing,” but by continuing a course of tillage, through every season of the year. The great and prevalent error of fallowing, is that of closing the operation when it is barely beginning to produce the required effect. The root-weeds having broken into sets and the seeds of weeds released from their confinement, they are left alive in the soil, to propagate their respective species, and contend with the crop to be placed in conflict with them. One ploughing toward the finishing of a fallow, may be more radically efficacious in regard to the complete extirpation of weeds, than three or four at the commencement: a regenerating process this, which, in a course of years, will do more for the occupier, the proprietor, and the community, than all the plausible schemes of amateurs, listeners, and superficial observers, added to all the quackery of interested individuals, that has so long been poisoning the minds and debasing the practice of inexperienced occupiers.”

Brown of Markle, on the other hand, though equally an advocate for fallowing, shews most unequivocally that fallowing with the view of destroying weeds, which is Marshall's main principle, is in a great measure lost labour and time; for “more root-weeds,” he justly says, “are taken off by one gathering (hand-picking,) than can be destroyed by a couple of ploughings, allowing the season to be ever so favourable; and if hand-gathering will save one single ploughing (which cannot be stated at less than 12s. an acre,) the expense is amply repaid.” Here, then, is the weed theory of fallowing demolished by a plain calculation.

Mr. Lawrence, the author of the “New Farmer's Calendar,” still more strongly appeals to experience, and affirms (truly, as I believe,) that he has never observed couch to be eradicated by fallowing; a portion only being destroyed, and a sufficient quantity of roots left to produce a crop which will speedily demand another fallow, and so on for ever. Nay, regular periodical fallows, he hesitates not to style the nurseries and hot-beds of couch, since on lands subject to fallowing the greatest quantity of couch is always met with. This author's remarks are the more to be trusted, that he is not a thorough-going disciple of Tull, and does not believe the hoe to be much more effectual in eradicating couch than fallowing, and recommends hoeing only after dragging and burning. It is worth remarking here, that the same author seems, like Dr. Home, not to have been far from discovering the principle of plant excretions, when he shrewdly says, it is singular to admit that fallowing may be superseded by turnip culture, and yet not by cabbage and beans, the appropriate crops for strong lands. Had he followed up this view, he might have arrived at the rationale

of the rotation of crops, which had indeed been published by de Candolle some years before, namely, in 1805, but was, probably owing to the war, not then known in Britain.

I would further remark, that, if it be the chief benefit of a fallow to destroy weeds, why is not winter as good for this, or better, than summer? The seeds of animals may then, by bringing them to the surface, be killed by frost; and still more, couch and other root-weeds may be destroyed in the same way, or carried off by hand-picking. The answer, however, to this is, that winter fallowing produces very little effect, notwithstanding the supposed theoretical influence of frost, compared with summer fallowing; because in winter the sun's light is not powerful enough to decompose the excrementitious matter in the soil, and carry it off by evaporation.

SUBSTITUTES FOR FALLOWING.—In order to make up for the great loss of a year's rent and taxes of land under a bare fallow, those who are opposed to the practice have proposed various crops as substitutes; and, according to the narrow and erroneous notions entertained of the effects of fallowing in destroying weeds and pulverizing the soil, it would appear most evident that several sorts of crops might completely answer these purposes, almost any sort of crop, indeed, under Tull's drill system of husbandry. “Clover,” says the Earl of Dundonald, “sainfoin, cabbages, turnips, leguminous crops, hemp, and those plants which overshadow the ground, and cause a stagnation of air, prevent thereby a putrefaction or decomposition of vegetable matters contained in the soil; such crops will therefore prove more economical and beneficial to subsequent crops than the present system of fallowing.”

The question, however, is not one of argument, but experience and experiment; for, as Cleghorn well remarks, “no reasons, however ingenious, for the omission of fallowing, can bring conviction to the mind of the farmer, who in spite of all his exertions, finds, and at the end of six or eight years, that his land is full of weeds, sour, and comparatively unproductive. Drilled and horse-hoed green crops, though cultivated with advantage on almost every soil, are probably in general unprofitable as a substitute for fallow, and, after a time, altogether inefficient. It is not because turnips, cabbages, &c. will not grow on such soils, that a fallow is resorted to; but because, taking a course of years, the value of successive crops is found to be so much greater, even though an unproductive year is interposed, as to induce a preference to fallowing. Horse-hoed crops of beans, in particular, postpone the recurrence of fallow, but in few situations can they ever exclude it altogether.”

This I consider to be sound practical doctrine, unbiassed by fanciful speculation. An additional circumstance occurs to me, bearing directly on the weed theory of fallowing. Were it for the destruction of weeds chiefly that fallows are resorted to, a crop of flax would be much more efficient than either turnips or any other green crop; for I have uniformly remarked, both in Scotland, Ireland, and on the Continent, that the ground from which a crop of flax has just been removed, is more bare and free of weeds than after any other crop. Yet I need not tell the practical reader, that flax would be one of the worst possible substitutes for fallow, and unless the land were miraculous in quality, a crop of wheat sown after flax would be almost certain to fail, or at least to be a very indifferent crop.

No crop as a substitute, indeed, could ever answer the same purpose as exposing the soil to the sun-light, by repeatedly turning it up with the

* This statement of Marshall's is evidently quite gratuitous and conjectural.—J. R.

plough and the harrow; and even if the drilling of green crops would do this, "the process of drilling," as Brown of Markle justly says, "cannot be executed upon clay soils with the slightest prospect of advantage." Mr. Brown, of Cononysyth, Angushire, even recommends fallowing on dry soils. "One-seventh," he says, "of the land of his farm is in fallow or turnips," but in general he only sows about ten acres of turnips, as he finds that he has much better grass when sown among wheat after fallow, than with oats after turnips; and when broke up from pasture, the difference of the oat crop in favour of a bare fallow is also discernible."

As theorists unacquainted with practice often promulgate the most erroneous views, so practical men who set themselves to theorise, are exceedingly apt to stumble upon what is faulciful or wrong. Mr. Main, in his "Physiology," says:—"As to the idea that land is benefitted by exposure to the sun and air, except for the purposes of desiccation and more perfect comminution, no greater error was ever conceived; because it is well known that the nutritive qualities of the soil are fugitive under the action of the sun and air." Yet Mr. Main just before this recommends fallowing as "absolutely necessary" to destroy weeds. What! and thereby send all the nutritive parts of the soil into the air?

If I have not much deceived myself, then, the principles which I have above advocated are fully borne out by the best ascertained practical results, and this, so far as I know, cannot be said of any theory of fallowing hitherto proposed.

ON THE CAUSES OF THE FAILURE OF THE POTATOE CROP, AND SUGGESTIONS FOR ITS REMEDY.

(Continued from page 430.)

2. LATE PLANTING.—This I consider to have been the principal cause of the failure. The cause already assigned is produced chiefly by this circumstance, and the last owes to it its chief influence.

The potatoe is an early plant, and should accordingly be planted early. The earliness of the plant is proved by the early period of the season, and the low temperature at which it spontaneously germinates. Under the most unfavourable circumstances, without being imbedded in any kind of mould, it begins to sprout in March, or early in April; and as the season advances, it is difficult, if not impossible, to prevent this entirely. The period and temperature, therefore, when the plant begins spontaneously to germinate, would seem to be the period pointed out by nature for its being put into the ground. Accordingly, from everything I can learn, there is scarcely—I may boldly assert there is not—an instance of failure in gardens, where this root is planted early in April, under whatever mode it may have been planted. Such a result is precisely what might have been expected; the seed is put into the ground in a fresh and firm state, before any of its substance, or productive power has been withdrawn from it by spontaneous germination. The sprout, or *chun*, which it puts forth, is its first sprout, which is always the most healthy and vigorous; and it is supported by the choicest or most productive part of the seed; and it is put into the ground when neither the seed nor dung is in any danger of fermentation from the heat of the season, or warmth of the soil; and the low temperature at that early season of the year, seems, by the spontaneous germination of the seed, to be

most favourable for the first stages of vegetation in this plant.

This last circumstance deserves particular notice. The potatoe, though a native of South America, which is a hot climate, does not reach the same perfection there which it has reached in our climate and soil. It has, for some years past, been raised in India; but the produce, according to Bishop Heber, from the too great heat of the climate, is soft and watery, and far inferior in point of quality to what is raised in Europe. Even in this country, arising no doubt from too late planting, crops on the lower and warmer soils, which are also under a hotter temperature, are more apt to fail than those on higher and colder, but dry grounds. Too great heat seems, therefore, unfavourable to this plant, but especially in its first stages of vegetation.

The advantages arising from early planting are thus all reversed in late planting. By the beginning of June the potatoe has been drained and exhausted by spontaneous germination, which it was entirely to prevent. The sprouts or *chuns* which the potatoe puts forth in the house or pit, early in the season, were broken off to check their growth; and this process of checking vegetation, by chunning or breaking off the young sprout, I have known to have been repeated during the season twice or thrice upon the same potatoe. Is a potatoe that has been treated in this manner in a fit state for vegetation? or, rather, is it not greatly exhausted or injured? It will, indeed, even after such treatment, still put forth sprouts; but the second or third attempt at germination is not in one vigorous shoot, as the first always is, but in two or more puny shoots which are sure to produce a weak and sickly stalk, and consequently a poor crop.

No potatoe that has been subjected to this process of chunning is fit for seed. Take any bulb or tuber, or seed whatever, and subject it to this process twice or thrice, and delay putting it into the ground for two or three months after the period which nature points out for its germinating, and what would be the result. If a grain of corn is allowed to spring, and the young sprout broken off, and then sown, would it, if it grew at all, produce a vigorous stalk? Or take the bulb of a daffodil, which, like the potatoe, is an early plant, keep it warm and let it germinate, and break off twice or thrice its young sprouts, then plant it in this state long after the period of the season that nature assigns for its vegetation, say about the end of May or beginning of June; and if it grow at all after such treatment, continue this practice for a few years, and I have no doubt but you would have as poor a crop of daffodils as you now have of potatoes. But is not this the very system you have been pursuing with the potatoe. It is an attempt to force it to grow at a season of the year different from that which nature has assigned to it, and that too with seed that is exhausted by previous spontaneous germination. The result is precisely what might have been expected.

But still more. A potatoe that has been exhausted by spontaneous germination, and this I hold it impossible entirely to prevent till so late a period of the season as the end of May or middle of June, becomes soft and spongy, and when cut, is more apt to bleed. Its pores are thereby so opened and relaxed, that the remaining moisture or nutritive power is more easily withdrawn from it, by its being absorbed either by the dry and hot dung, or the dry and warm mould, with which it comes in contact. Examine any of these which have not germinated, and you will find them either as soft as a piece of new cheese, or afterwards as light, dry, and fashionless as a fungus. In this state, indeed, they some-

times contain small worms or insects, which some have affirmed to be the cause of the disease. Some writers, indeed, have represented these insects as an entirely new species, furnished with a hundred legs or heads, I forget which, by whom the seed is devoured. I shall leave this new species of insect to those more skilled in entomology than I am. But does not every vegetable substance in a state of decomposition, swarm with insects, just because they found the substance when in such a state of decomposition, the most proper *nidus* for their eggs, and for rearing their young brood? These insects, therefore, I hold to be, not the cause, but the consequence of the diseased state of the seed, induced by the circumstances which I have mentioned.

The evil arising from the soft and spongy state of the seed, produced by exhaustion from spontaneous germination, is greatly increased by late planting.—The sun's heat is then powerful enough to warm and dry the soil, and to heat and ferment the dung even after it is covered in the drill. By either of these causes, but especially by them both, when conjoined, the remaining moisture of the soft and spongy seed is soon absorbed or dissipated, and the cutting made a "*caput mortuum*." A fresh and firm seed, especially if preserved entire, may partly resist the operation of these causes; but they are sure to prevail over unripe seed, which is always softer and more porous than that which is fully ripe. And if unripe seed has been still farther injured by spontaneous germination, long before it is put into the ground, it falls a still easier prey to the causes of disease operating during the hottest season of the year.

This will fully explain the difference arising from planting in the morning, mid day, and evening.—The heat of the mid-day sun at such a season of the year, operates with immediate and powerful effect upon seed in such a soft and diseased state. It is dried up and withered in a few hours. The same will explain why there is a difference arising from planting in moist and cool weather, and hot, bright, and dry weather. In the one case the moisture or nutritive power is retained in the seed, in the other it is absorbed or dissipated: in the one case the dung gradually incorporates with the soil, in the other it ferments and destroys the seed.

To remedy this evil it has been proposed to plant the potato entire without cutting it. This will remedy the evil to a certain extent. The skin being preserved whole, will help the seed to retain its moisture, and thus preserve its substance for germinating and supporting the young plant. But if the seed has not been ripe or injured by the causes which I have assigned, it will still put forth a weak and sickly stalk, and the produce will be defective.

3. BAD MANURE.—A third cause is the dung not having been properly prepared by fermentation. The agency of the two causes which I have already assigned, though either of them singly is sufficient to account for the failure, is powerfully increased, when they are combined with this last. No seed, however firm and healthy, can long resist its influence without injury or destruction; and unripe seed, or seed that is soft and spongy by having been exhausted by spontaneous germination previous to planting, is sure to be instantly destroyed. If it is admitted that dung may, and sometimes actually does, ferment in the drill, this we suppose will be universally allowed to be a sufficient cause for destroying the seed, and for the consequent failure of the crop.

Some affirm that dung will not ferment in so small a quantity as that which is put into a drill; others,

who have examined it, affirm as decidedly that it will. But all agree that dung, if put into the drill before having been fermented, or while in a wet unprepared state, in mould that is dry and warm, and under a hot sun, afterwards subsides; that the seed is thereby withdrawn from the soil, and that a kind of gaseous air is produced that is injurious to vegetation.

Some may maintain that dung has of late years been as well prepared as in former times. This position is more than doubtful. Formerly a dry and rather high piece of ground was chosen as the stance of the dung hill, and straw yard sheds were used only on the larger farms, where the dung was generally carried out from, to the field, during the frosts of winter. Straw yard sheds are now almost universal, and a greater attention to the means of procuring manure for a more extended green crop, has induced most farmers to keep their manure in a deep sunk pit, by which the wash is retained, which keeps it always wet, and prevents it from fermenting. Some, indeed, affirm that they have always the best crop, after using dung in a wet or green state. When the soil is cool and moist, and the temperature low, this will generally be the case; and in this state it goes farther. But the case is altered, when it is in this state put into hot dry mould, under a hot sun, in an advanced state of the season. It then *five fangs*, or ferments, and destroys the seed in contact with it.

So convinced are many of this being the result of dung used in such a state, that they have attempted to guard against it, by incorporating the dung with the soil during the winter. This will obviate the evil from unprepared dung, but it will not remove the other causes of the failure. If the dung is properly prepared, and the seed good and put into the ground at an early period of the season, the old method of planting on the dung put into the drill, is decidedly the best, as it will bring away the plant more early and in a more vigorous state, than by any other practice.

As some of the positions here advanced may be questioned, I beg to support them by a few facts furnished me by practical agriculturists. In Dumfriesshire last autumn, when conversing, with a farmer who superintends personally a small farm, he informed me that half of his potatoe crop had entirely failed, while the other half was remarkably productive—that the field was equally good in point of soil—that it had been all planted with the same seed—that the seed was all cut on the same day—and that all the field was planted on the same day. What then could be the cause of so great a difference in point of produce? The cause assigned, which I have no doubt was the true one, was in the dung. Part of it had been carried out to the field during winter and properly fermented; the other portion used was fresh from the straw yard. The season was advanced and very hot. The part planted with the prepared dung was a remarkably good crop; that planted with the fresh green dung was a complete failure. Could this failure then be ascribed to anything but to a fermentation in the dung? I have since heard of many similar fields, or partial failures, (that is, one part of a field turning out a good crop, and the other part of it a very bad one,) from precisely a similar difference in the dung employed.

On mentioning these circumstances to a friend of mine, a farmer in Mid Lothian, he mentioned that his next neighbour had that season a field of potatoes, which he regarded as an illustration of the truth of my remarks. The field having formed part of a

nobleman's policy and lain long in grass, was in high condition. One crop of oats only had been taken from it, and it is doubtful whether it had ever bore a crop of potatoes before. It lay in a sloping position, and the drills ran from top to bottom of the field.—The lower portion of the drills being the richest portion of the field, received no manure; the other portion of the same drills were well dunged. The portion that was dunged is a complete failure. The other promised to be an excellent crop.

I remember also on surveying a field, about 15 years ago, belonging to a friend of mine in Galloway, a great difference in point of vigour and advancement of vegetation, in different spots of the field, though the field was a perfect plain, and all equally good in point of soil. On inquiring into the cause of this difference, I was informed that the square spots that were vigorous are so much more advanced, had been manured with horse and cow dung that had been daily carried out and properly made, and that the portions of the field that were later and not so vigorous, were dressed with dung fresh from the straw yard sheds, which had never been lifted or turned from the time when the cattle had been put into the sheds at the beginning of winter, till it was carried to the field and put into the drills. The field, however, had been planted in the month of April, the seed was fully ripe, and neither the temperature of the air nor soil was such as to produce fermentation. The crop turned out eventually a good one, though the field ripened very unequally. My friend has lately informed me, that the same appearances from the same causes were observed by him during the whole currency of his lease.

In addition, therefore, to the danger arising to the seed from fermentation in the drill, the injurious effects of unprepared dung will be more sensibly felt under the present system of late planting, as it retards vegetation and thereby prevents the crop from ripening at the proper season, and exposes it to be nipt by early frosts.

The remedy for the evil complained of, is pointed out by the causes that have produced it. Let the seed be fully ripe and properly preserved till it is planted. Let it not be injured by fermentation in the pit, or after it is cut, and let it if possible be prevented from exhausting itself by spontaneous germination. Heating, sweating or fermentation, even in the slightest degree will destroy all kinds of seed.—Potatoes ought to be kept as cool as possible, which also prevents too early germination. Covering potato pits with dung, which is often practised to keep out the frost, or with any covering that keeps them too warm, which causes them to sweat or to germinate too early, is most injurious. And all these causes operate with double force upon potatoes that have been lifted in a half green state, or before they were fully ripe.

Were potatoes left in the drill all winter, with an additional covering of mould thrown over them with the plough at the season, I am convinced they would be preserved better by that method than by any other. I have this season planted some potatoes in my garden, that were preserved in that manner, and were in an excellent state of preservation, though the last season has been one of unusual severity.

The cuttings should not be small but of a considerable size, that they may afford nourishment and support to the young plant till it catches the soil.—On this head a friend of mine last year made the following experiment. He picked a hundred weight of good large potatoes, and another hundred weight of a smaller size, and planted them both entire in the midst of a field, planted with seed cut in the

common way. The larger ones were planted $1\frac{1}{2}$ feet distant from each other—the smaller ones at one foot. The crop from the larger potatoes displayed the strongest stems and most vigorous vegetation. That from the smaller ones was also more vigorous than the rest of the field. The difference in point of produce I have not yet learned as it was not then ascertained.

2. Let the potato seed be planted in the month of April, or early in May, when the seed is still fresh and firm; and the dung in little danger of fermentation.

3. Let the dung be properly prepared, by being turned and fermented before it is put into the drill.

If these plans and simple rules be observed I am bold to say not one field in a thousand will fail. It is in short only a return to the good old practice, when a failure in this crop was unknown.

Dunkeld.

D. HENNING.

IMPROVEMENTS IN AGRICULTURE.

We have received a long list of queries upon agricultural subjects, which we propose to insert from time to time, and shall feel obliged to any of our readers who will favour us with their opinions upon them.

1. Hedge birds are considered so injurious to the crops that the Highland Agricultural Society has offered premiums for the best mode of destroying them. How much do weeds lessen crops more than birds?

2. Would there be any saving to the country, by drilling or dibbling grain instead of broad-casting, and to what amount?

3. Dibbling or drilling corn admits of effectual weeding; how much can labourers and their families earn by weeding, and how much more than that cost will the farmer gain in his crops?

4. The competition of the Iron Plough worked by two horses, a d sent by Mr. Blacker to the ploughing match at Hailsham in March last, seems to have proved that two horses abreast with the Iron Plough will do as much work as four horses with the turn-wrist plough, the horses being harnessed at length. Assuming then that the saving of two horses will be effected, does not each farm horse cost as much as will maintain a labourer his wife and at least two children?

5. If so, how much would the saving amount to upon a farm of 500 acres?

6. What would be the amount of saving per cent in the rent?

7. What would be the amount of saving to the whole country?

8. How much would be gained by the farmer if he gave the food to the cattle stall fed, as in Holland and Germany?

9. How much human food would be thus gained to the community?

10. What is the difference in value between the manure of oxen and horses?

11. It is stated in the *Quarterly Journal of Agriculture*, that manure carried out fresh is doubly efficacious as compared with that which has been worked the usual time in open yards. Is this statement borne out by experience?

12. How much food is wasted by cattle treading it under foot in wet weather, which would be saved by stall feeding; and would not the saving much more than compensate the expense of attendance?

13. What is the probable loss of paying for labour by the day which may be performed by the piece?

14. Is not the system of doing task work equally profitable to the employer as to the employed?

15. What is the cost to landlords of large barns for the purpose of housing grain?

16. Is there any loss to tenants from the use of such barns; and particularly what loss from vermin?

17. Would not the cost of corn-rick steads be less than barns to house in, and how much?

COMMITTEE ON AGRICULTURE—

SESSION 1836.

EXTRACT FROM EVIDENCE OF MR. JOHN HANCOCK.

State of Agriculture worse than in 1833—Flax grown instead of Wheat during the last three years—Suited only to best soils—Chief Remedy for Farmers lies between Landlord and Tenant—But Farmers on their own Land badly off—Malt Tax might be taken off—Other Taxes unimportant—Irish Produce has kept down Prices in England—Clover Seed—A great Disadvantage to take off Foreign Duty—Low Price of Corn occasioned by increased Consumption of Potatoes.

Mr. Sanford.] You were examined before the committee in 1833, were not you?—I was.

Are you still in the occupation of the same land you were at that time?—Yes.

Have you any observations to make with regard to the state of agriculture in the neighbourhood with which you are acquainted which you would wish to add to the evidence which you gave in 1833?—Yes, certainly it is worse than it was. Wheat has gone down from 1s. 6d. to 2s. a bushel.

In consequence of the low price of wheat has there been much less land sown to wheat the last year?—I should think much, one-fourth, and from that to a-n-fifth.

What have the farmers done with that land which ought to have been sown with wheat in the regular course?—In consequence of the failure of turnips they were obliged to let the leyland remain in grass a year longer, and more is sown to barley and flax.

Has there been any new crop introduced into the country to supply the place of the wheat crop?—The last three years flax has increased very much in our neighbourhood, where the land is good and calculated for flax.

Do you think that a beneficial crop to the farmer?—He can sow few acres a year; I do not think a farmer on 100 acres of mixed land can sow more than from six to eight acres out of 60 of arable, to do himself much good, for the flax must be sown on the best of the land, and it must be clean and put in a very good state as to manure, or the crop is not certain.

It is not a crop which can be adopted on the poor land?—No, it must be the very best of the arable land.

Can it be adopted on the heavy clay lands?—Not so much to advantage; there is some of the heavy land will do very well when it is in a good state, and in a good season; but the best loam soils and sands are best adapted for the growth of flax.

To what extent do you apply those observations, in point of district?—I should think from Wellington, or in fact all the way from Tiverton up to the end of our county, close to Yeovil and Sherborne.

An extent of 40 or 50 miles?—Yes, the growth of flax has increased; it had almost got out of use, from the very low price, when corn came down so low it induced persons to grow more flax; the price of flax increased the last two or three years.

What is the general character of the soil of that county?—The general character of the soil of that county is rich sand, stone, brush, and loamy soils; they sow turnips and wheat after flax, and wheat is generally prosperous after that crop; and turnips after flax is generally very good, where it is not too heavy a soil.

The persons occupying that land you consider to be in a worse state than they were in 1833?—Certainly.

Can you suggest to the committee any remedies which you think would give them relief?—I do not know that I can; the principal remedies, I think, must be between landlord and tenant, in a great measure. I do not think we can be benefited much, as to taxes, unless the malt tax were taken off, that would ease our farmers and cause them to grow much more barley; ours being a county for sheep, I think it would benefit the farmers a great deal, and would cause a great consumption of barley.

You are unable to suggest any remedy that could give relief, except a remedy between landlord and tenant?—Yes, I think the Irish produce has kept down for the last two or three years our produce rather lower; but I think that if Ireland is to be considered as an integral part of our country, the same as Devonshire to Somerset, or Somerset to Dorset, they ought to bear the same burthens as we do with regard to poor rates and taxes, and everything of that kind.

Mr. Heathcote.] Are there many small proprietors in your part of the country?—Yes, there are.

Then a reduction of rent would be no advantage to those that cultivate their own ground?—No, not to persons on their own estates.

What is the condition of those small proprietors?—They can just move along.

Are many estates mortgaged?—Yes, a great many of them, no doubt.

They find great difficulty in paying the interest of the mortgage with the falling price of corn?—Yes, and many elder branches of families have had the estate given them, subject to annuities.

Is there any idea in that part of the country that the price of bread is too high for the price of corn?—I think that the baker has nearly the same profit on baking a sack of flour at this time as he had when the price of corn was much higher.

Are you to be understood to say that the county rate is 30l., on a rental of 2,000l.?—Yes, from 1,800l. to 2,000l.; the county rate is about 30l.

Have you ever turned your attention to the means of relieving the farmer?—I think that the principal relief must be between the landlord and the tenant, and what can be saved from the poor-rates; what little taxes we pay do not affect us much, for on farm houses and windows, and on the riding horse it is very small.

Do you save any cloverseed in Somersetshire?—We do a great deal after the first mowing the after-grass seed.

Are you aware that it has been proposed to take off the protecting duty of 1l. a cwt. on clover-seed; do you think that would be an advantage or a great disadvantage to the farmer?—A great disadvantage.

You are aware that those who buy their seed would gain an advantage?—Perhaps they would.

You think, that though a great advantage in some cases, it would be a great local injury?—Yes, it would to our county and some part of Devon. We generally grow clover-seed after the first sowing, notwithstanding the seasons have been so favourable the last two or three years, the clover-seed generally has been a very bad crop, although the ap-

pearance of it was very good. There is a small fly, that lays its eggs when the seed is in a glutinous state, and the insect destroys the seed; I recollect the last season it had every appearance of a good crop, but I cut it for hay, and put some salt with it, about a quarter of a hundred to every load of hay; two or three days afterwards this clover hay began to ferment, and that brought out these insects innumerable, it was very near the barn door, and the barn door and lintels were covered with the insects.

You think that the growing of clover-seed, though an advantage to the agriculturist, in your part of the country, is attended with uncertainty?—It is attended with uncertainty in some seasons, but we have generally, in two or three years, a good crop.

Mr. Sanford.] Is not there a prejudice in that part of the country that frequently clover seed imported fails?—Yes; the seed by not being kept well will not succeed. The turnip-seed and flax-seed, and all sorts of grass seed, should undergo a certain heat in some kiln or in the sun; if kept over a year it will vegetate in part, and it will not grow well. We sometimes get some of that mixed up by the factors with the other bright seed, and sent down to the country, and a great part will not grow.

Contrary to the usual experience of farmers that the foreign is better, the farmers in that part of the country prefer their home grown seed?—Yes; sometimes they will buy a few pounds for change of seed.

Chairman.] Taking off the duty on clover-seed would not check the price of English clover-seed, would it?—I should think it would.

Mr. Cawley.] What has the low price of wheat come from?—From the number of potatoes in a great measure among the lower classes, which they prefer eating to bread, and I believe the higher classes too get fried potatoes for breakfast, and many prefer them to bread.

When did this change in taste begin?—More so from 1829 to 1830.

Was there any fall in the price before 1830?—Yes; we had a fall in the price in 1822.

Did they not eat potatoes formerly?—Yes; they have been grown to a considerable extent for the last 30 years, but I think they have been increasing much of late, and since the allotment system came in, the poor people grow much more than they did before, and many small farmers let out potatoe ground, to make up their rental; they can make by that more than by anything else.

BREADTH OF WHEAT ON THE GROUND.

TO THE EDITOR OF THE FARMER'S MAGAZINE.

SIR,—I see you are anxious for information as to the breadth of wheat sown this year, and as I have a pretty good opportunity of judging, I should say it was one-third deficient in this county, and perhaps one-fourth upon the average of the kingdom. Last season wheat yielded badly in the north of Ireland, and every where the potatoe crop (after which most of the wheat in Ireland is sown) was so late that from the wetness of the season combined, it was not possible to sow any large quantity at the usual season, and it was only in very dry soils the sowing could be accomplished. What has been sown in spring is only but just appearing, and even the winter sown does not yet cover the ground, so that there is every

appearance of a late harvest. The oat crop except in the very north of the island was exceedingly good, and the prices very good, so that notwithstanding the advance on wheat, the oat crop paid the farmer better, and made him less anxious to put in wheat under such obstacles as the weather presented. There is no wheat, or, I might add, any other grain in the farmers' hands of any consequence throughout the kingdom, and but little in store for shipment except in the south western ports, where some oats still remain. The millers have not half the stock they had this time last year, which may be seen by the firmness of our markets when yours were falling, and I should imagine the north will have to be supplied to a certain extent, either from Liverpool or the southern ports of this country.

Should we have a favourable season, we may expect immense crops of oats, and very low prices, if a good crop in England. Fodder of all kinds very scarce, and hay 5s. per cwt., in this country an unheard-of price. Potatoes and oatmeal are also dear, and nothing but the prospect of an early and abundant harvest can keep down prices. We have had a little time back a few days of fine growing weather, and the crops look healthy though late, but the most of this week has been cloudy and very cold, and still continues so as greatly to check vegetation.

This is the most particular account I can give of the present appearance of things, and the impression on my mind is, that we must almost, under the best appearance of the coming crop, have a decided advance, particularly in wheat, and the consequence will be, from the depressed state of the manufacturing interest, that the greatest exertions will be made to suspend the operation of the corn laws, which would have a most ruinous effect upon the agricultural interest, just coming into the market as the new crop became ripe. I am, Sir, your obedient servant,

Armagh, Ireland.

A SUBSCRIBER.

BREADTH OF WHEAT ON THE GROUND.

TO THE EDITOR OF THE FARMER'S MAGAZINE.

SIR,—With respect to the breadth of wheat sown this last season, I can only speak regarding Scotland. The quantity sown is not over half an average at utmost; from the very wet autumn last year, it was impossible to sow wheat in this country, consequently the bulk of it is spring sown, and with the exception of a very trifling quantity sown last autumn, all the spring wheats will be nearly a total failure this season. The fact is, if the season had not been so far advanced as to preclude the sowing of spring corn, a great bulk of it would yet be ploughed down. It is quite evident Scotland must import large quantities to supply the consumption for at least the forthcoming eighteen months. The weather as yet is anything but encouraging for the crops, being very cold, with strong north-easterly winds which retard vegetation very much. If the present severe weather should continue a week longer, it will make a very bad hay crop. I am, Sir, yours most respectfully,

Dumfries, May 22.

A CONSTANT READER.

CELEBRATED MILLERS. — It was stated that the great painter Claude Lorraine was apprenticed to a dealer in flour and pastry; that Rembrandt was a miller; that the late Mr. Constable, R.A., was also a miller, and that Wm. Etty, R.A., is a miller's son, from Yorkshire.

PROPORTIONATE GRAIN FREIGHT TABLE.

IF WHEAT PAY		PEAS, BEANS and TARRES, 10per Ct. more	RYE, 7½ per Ct. less	LINSEED, 10 per Ct. less.	BARLEY, 15 per Ct. less.	OATS, 22½ per Ct. less.
FREIGHT PER QUARTER.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1 0	1 1½	0 11½	0 10½	0 10½	0 10½	0 9½
1 3	1 4½	1 1½	1 1½	1 1½	1 0½	0 11½
1 6	1 7½	1 4½	1 4½	1 4½	1 3½	1 1½
1 9	1 11	1 7½	1 7½	1 6½	1 5½	1 4½
2 0	2 2½	2 10½	1 10½	1 9½	1 8½	1 6½
2 3	2 5½	2 0½	2 0½	2 0½	1 10½	1 8½
2 6	2 9	2 3½	2 3	2 3	2 1½	1 11½
2 9	3 0½	2 6½	2 5½	2 5½	2 4½	2 1½
3 0	3 3½	2 9½	2 8½	2 8½	2 6½	2 2½
3 3	3 6½	3 0½	2 11½	2 11½	2 9½	2 6½
3 6	3 10½	3 2½	3 1½	3 1½	2 11½	2 8½
3 9	4 1½	3 5½	3 4½	3 4½	3 2½	2 10½
4 0	4 4½	3 8½	3 7½	3 7½	3 4½	3 1½
4 3	4 8½	3 11½	3 9½	3 9½	3 7½	3 3½
4 6	4 12½	4 1½	4 0½	4 0½	3 9½	3 5½
4 9	5 2½	4 4½	4 3½	4 3½	4 3	3 8½
5 0	5 6	4 7½	4 6	4 6	4 0	3 10½
5 3	5 9½	4 10½	4 8½	4 8½	4 5½	4 0½
5 6	6 0½	5 1½	4 11½	4 11½	4 8½	4 3½
5 9	6 3½	5 3½	5 2½	5 2½	4 10½	4 5½
6 0	6 7½	5 6½	5 4½	5 4½	5 1½	4 7½
6 3	6 10½	5 9½	5 7½	5 7½	5 3½	4 10½
6 6	7 1½	6 0½	6 0½	6 0½	5 6½	5 0½
6 9	7 5½	6 2½	6 3½	6 3½	5 8½	5 2½
7 0	7 8½	6 5½	6 6½	6 6½	5 11½	5 5½
7 3	7 11½	6 8½	6 9½	6 9½	6 1½	5 7½
7 6	8 3	6 11½	6 11½	6 11½	6 4½	5 9½
7 9	8 6½	7 2½	6 11½	6 11½	6 7½	6 0½
8 0	8 9½	7 4½	7 2½	7 2½	6 9½	6 2½
8 3	9 0½	7 7½	7 5½	7 5½	7 0½	6 4½
8 6	9 4½	7 10½	7 7½	7 7½	7 2½	6 6½
8 9	9 7½	8 1½	7 10½	7 10½	7 5½	6 9½
9 0	9 10½	8 3½	8 1½	8 1½	7 7½	6 11½
9 3	10 2½	8 6½	8 3½	8 3½	7 10½	7 2½
9 6	10 5½	8 9½	8 6½	8 6½	8 0½	7 4½
9 9	10 8½	9 0½	8 9½	8 9½	8 3½	7 6½
10 0	11 0	9 3	9 0	9 0	8 6	7 9
10 3	11 3½	9 5½	9 2½	9 2½	8 8½	7 11½
10 6	11 6½	9 8½	9 5½	9 5½	8 11½	8 1½
10 9	11 9½	9 11½	9 8½	9 8½	9 1½	8 3½
11 0	12 1½	10 2½	9 10½	9 10½	9 4½	8 6½
11 3	12 4½	10 4½	10 1½	10 1½	9 6½	8 8½
11 6	12 7½	10 7½	10 4½	10 4½	9 9½	8 10½
11 9	12 11½	10 10½	10 7½	10 7½	9 11½	9 11½
12 0	13 2½	11 1½	10 9½	10 9½	10 2½	9 3½

ON BONE MANURE, PHOSPHATE OF LIME.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—I attempted a short answer to a query, in your paper of April 24th, on the possibility of forming fictitious bone-dust, since which I have seen some observations of your correspondent T. R. F., who, not content with shewing his chemical knowledge of what bones consist, attempts to impugn the knowledge of a "Surrey Farmer," whom he knows not, but whom he fancies he does know. I will not attempt to say who T. R. F. is, or think the less of him, or his chemical knowledge if I did know; but, unlike him, will confine myself to the subject, and say something on the query, of "where does Nature procure this phosphoric acid to form bones?" for I consider, on a scientific question, personal remarks ought to be avoided, as beneath any great mind that can contemplate the beauties of the creation. I have asserted that Lance and Co.'s animalized carbon

assimilates the nearest to bone-dust; that it is cheaper, and will answer nearly the same purposes; this I will endeavour to show, and hope to do so to the satisfaction of your readers and practical men, if not to that of your correspondent; and if you will allow me more space in your valuable Express, than I occupied on the former occasion, I will call in the aid of those authors who will have more weight with your correspondent than the plain opinion or experience of a "Surrey Farmer." We have to consider, what is *feces*? Mr. Brande, a chemist of no mean celebrity, found 3-100ths of phosphat of lime in urine; by other experiments he found the carbonate of lime as well as the phosphate. Human urine differs in composition, according to the more or less healthy state of the body, and the nature of the food made use of, when the body is in a morbid state, much sugar is emitted. Parkes, in his Chemistry, says—"It is remarkable, that though phosphate of lime is always found in the urine of adults, this salt

is not evacuated by infants. The rapid formation of the bones in the first period of life requires that there should be no waste of any of the phosphoric salts, and nature, ever provident, has provided accordingly." This acid is found in bones, in milk and shells, and was first extracted from urine by Mr. Boyle, in 1680; he made it for sale in England, and took it with him for sale on the continent; it has since been used as a medicine. What is now made is principally obtained from bones; it is very soluble in water, therefore soon becomes fit food for vegetables. Sir H. Davey, in his Agricultural Chemistry, has shewn us the quantity of phosphate of lime in wheat and other grain. Saussure's tables of the ashes of different plants, shew that earthy phosphates are found in all grain,—in wheat 44, barley 32, oats 22 parts in 100 of ashes; this matter is found in the leaves, the bark, and the wood of all vegetables that have been examined; some plants, when in flower, have yielded 60 per cent. of the phosphate of lime from their ashes. We have, also, an account in chemical works of La Grange's calculation, that a person who eats a pound of wheat farina per day will swallow 3 lbs. 4 drachms, and 44 grains of phosphate of lime in the year; whilst the phosphate goes principally into the grain, the carbonate of lime remains in the straw with the silicious material, which gives form and roughness to the epidermis; the straw of wheat yields 61, barley 57, oats 60 parts in a 100 of silica. With the above information, we cannot wonder that Lancelotti animalized carbon contains so much of phosphoric acid, and carbonic acid, in union with lime, and that it should be nearly equal in its stimulating qualities to the London bone-dust, knowing as we do that the bones have the principal part of the oleaginous and gelatinous matters boiled out before they are crushed.

We will now see what Sir H. Davey says on this subject, in his Agricultural Chemistry, page 269: "*Night soil, it is well known, is a powerful manure, and very ready to decompose with water, it differs in its composition, but always abounds in substances composed of carbon, hydrogen, azote, and oxygen, and in whatever state it is used, whether recent or fermented it supplies abundance of food to vegetables. The Chinese, who have more practical knowledge of the use and application of manures than any other people existing, mix their night soil with one third of its weight of fat marle, and make it into cakes, these have no disagreeable smell, and form a common article of commerce of the empire.*" In page 303, "*Phosphate of lime forms the greatest part of bones, it exists also in most animal, excrementitious substances, and is found in the grain of wheat, barley, oats, rye, &c. It exists in some parts of these islands native, but only in very small quantities: phosphate of lime is generally conveyed to the land in the composition of other manures, and it is probably necessary to corn crops.*"

Now, Mr. Editor, your correspondent, T. R. F. seems most put out because he does not receive information of where in the earth the vegetable and animal nature finds the phosphoric acid to form bones, and supply the wants of vegetables, and confines his ideas to the appetite, or asparagus stone; I answer, it is, Sir, diffused throughout nature, as is oxygen, or iron, it is found in the animal and vegetable kingdom, and in very many mineral substances on the surface, in union with potash, and is designated vegetable matter. Your correspondent might with propriety ask, whence comes the potash, or how gets the vegetable the silex to form its substance, seeing that man knows not how to diffuse, dissipate, or volatilize it or even to liquidize it, at a less degree of heat than melting glass. I am not going to demonstrate where this phosphoric acid is locked

up amongst the treasures of nature, but if your enquirer would look into Phillips's Mineralogy, he will find many other substances described, besides asparagus stone, containing this acid; and I am going to venture something beyond what this work informs us, but as I said before, I do not demonstrate, my data is small, but yet I will hazard an idea on the subject, in hopes of being corrected. This acid is considered to be as scarce in the earth as carbonic acid is in the air, although they both play such conspicuous parts in the formation of vegetables. Earthy phosphates occur abundantly in Spain, where lime and phosphoric acid combine, in nearly equal proportions, to form whole mountains. The bog iron ore of Ireland contains 8, blue iron ore 32, phosphate of manganese, 27. Lead will combine with, 10, copper 30 per cent. of this acid. The primitive, and transition rocks of this country yield the acid in combination with various earths and metals, in the same way that potash is yielded from the same source, to all secondary and tertiary formations, and the soils reposing on their surfaces: that is, by the decomposition of the face of the rock. Hence, we have in all soils more or less of potash and phosphoric acid, as well as iron in its various states, and if your correspondent asks where all these come from, I must refer him to the great GOD OF NATURE, the GREAT FIRST CAUSE.

Earthy phosphate of iron is found of various colours, grey, yellow, green, white, blue, of various shades, it is found disseminating in, and covering the surfaces of various substances, it is found loose and also cohering, always having an earthy fracture, it is dull, meagre to the touch, light, and soils the fingers. This article is found in clay, alluvial deposits, of various soils, in the bog iron ore, it is very common, and in some argillaceous deposits it is found in large masses.

Mr. Phillips, in his mineralogy says, this article has been found in England in various muddy deposits; in the Isle of Dogs, opposite Deptford; near Liverpool, under similar circumstances; in the Isle of Man, it has been found in a light coloured marle; and in the peats of the Shetland Isles in masses.

Now, what I have to advance, is, that this acid is more diffused than is generally supposed, that animals and vegetables obtain it without any miraculous formation. I view it (this phosphoric acid) as one of the ingredients which gives colour to vegetables as well as earth, together with manganese and iron, united with carbon and hydrogen; then it will be said, why cannot we detect it? I answer, for the same reason that we cannot detect by analysis scents or odours in the air, although we know them to exist; the divisibility of matter goes far beyond the conception of man; the animal and vegetable economy is a laboratory beyond man's puny means.

Now, Mr. Editor, I have shewn, without writing a volume, that a prepared faeces is the nearest assimilation to bone-dust that can be had at present for the farmer's purpose, and if T. R. F. knows of a better let him state it.

Of the misapplied term, animalized carbon, I have nothing to say, I believe it to be incorrect; the term was copied from the maker at Copenhagen, who first supplied the article to the Scotch agriculturists. I have known in the practice of my early youth, an animal have carbonaceous tubercles formed on a diseased lungs, they would be properly called, *carbon animalized*; as the diamond is *carbon bright*, and charcoal is *carbon black*. If your correspondent is not now satisfied, let him come forward again, and I will endeavour to answer him, if you will find us room.

A SURREY FARMER.

AGRICULTURAL INTELLIGENCE, FAIRS, &c.

STOCKBRIDGE.—Our cattle market show, notwithstanding the backwardness of the season, was well attended, and the stock of a very superior class. The premiums to those considered best entitled, were thus awarded:—For the 10 best wethers, Mr. Pain, Houghton—second best ditto, Mr. Budd, Winchester—ten best South Down lambs, Mr. Pain, of Houghton—second best ditto, Mr. Penton, Bransbury—ten best ewes, Mr. Penton, Bransbury—ten best store pigs, Mr. W. Russell, Longstock—the best calf, Mr. Penton, Bransbury.

A party of upwards of 50 sat down to an excellent dinner, prepared by Sherry, at the Grosvenor Arms, at which Peter Green, Esq. presided, and Mr. Busigny was vice president.

After the usual loyal and patriotic toasts, the Chairman proposed success to Stockbridge market, observing that in the present advanced state of agriculture it behoved the farmer to avoid expenses, and to support local markets; that from his experience in and connection with Stockbridge, he was satisfied that it was particularly adapted for a market; and that every endeavour should be made by the neighbouring agriculturists to support the market, thereby supporting themselves, and introducing an improved breed of stock. Alluding to the lambs shown, he observed that an improvement in stock was progressing. With respect to rams, exhibited by Mr. John Twynam, and for which no prize was offered, it appeared certain that the march of intellect was progressing, and that this neighbourhood would not be behind others in stock. The chairman, after recapitulating other advantages of the market, such as the promotion of a friendly intercourse between landlord and tenant, &c. sat down amidst loud cheers.

The healths of Messrs. Pain, Twynam, Attwood, Russell, Charles Penton, Godwin, and Baily, supporters of the market, were received with due honours.

Mr. Busigny proposed the health of a long, sincere, and well-tried friend of the agricultural interest—a man of the old school, who not merely wished to live, but let live,—one who had sacrificed comfort and fortune to further the ends of agriculture—Mr. Green.—(*innense che'ring.*) The enthusiastic reception of the toast precluded his entering further on the subject; but in justice to themselves, in justice to the chair, and in justice to himself, he must be permitted to say that their worthy chairman was one of a class unfortunately now nearly extinct; and that happy would it be for the country were there more of his class still in existence—a class justly England's pride and glory—the old English country gentleman.

The healths of Lord Chandos, R. Ettwall, Esq., B. Wall, Esq., and the Members of South Hants, who ever supported the agricultural interest were remarkably well received.

Sweepstakes for Rams, Ewes, and Lambs, to a very large extent, and open to all England, were entered on, and as a spring show for stock, we may look forward to this market, not merely as an indication of price, but as a surety of an improvement in breed. Many leading agriculturists have promised their support, and the next spring meeting is looked forward to with intense interest.

ROWELL or ROTHWELL FAIR, on account of the late severe weather, was but thinly attended by buyers, who formerly came a long distance to purchase store beasts. There was a large supply of all descriptions of bullock beasts. The owners asked high prices, which were readily obtained for those that were in good condition. The show of short-horned cows and heifers was not so good, and the trade was exceedingly flat, and very little done. We never observed so many sheep, especially tegs, as were exhibited for sale on Monday last, and the sellers in most instances had to turn them out unsold. The horse fair was as bad as

could be, and consisted of animals of an inferior description.

The first of the **CASTLE BELLINGHAM NEW FAIRS** was held on Friday, and the results more than realized the most sanguine expectations of the inhabitants of that town. There was a vast number of very fine stall-fed cattle, that sold from 10*l.* to 20*l.*; also a great many springing cows disposed of at from 7*l.* to 14*l.* A good number of dry beasts sold from 6*l.* to 10*l.* Lambs brought 20*s.* to 22*s.* The show of pigs was very great, but prices for fat ones not so good. Stores sold better, and were in greater demand.—*Cork Standard.*

DUNDALK ANNUAL FAIR.—There was an excellent supply of dry cows, yearlings, and two-year-olds; all of which were in good demand and brought fair prices. Dry cows from 6*l.* to 10*l.*; yearlings from 1*l.* 10*s.* to 3*l.*; two-year-olds, from 3*l.* to 8*l.* The supply of beef cows, ewes and wethers was very deficient, while the demand was brisk; those in the market went off at 6*d.* per lb.; fat pigs, 36*s.* per cwt.; stores in good demand, but a scanty supply.—*Ibid.*

The **FAIR OF CLARE** was very good, but with very little demand for pigs. The fair of Tulla was of a similar kind. At the fair of Ennistymon there was a brisk demand for every description of stock.

DERBY WHITSUN FAIR was, as to number, well supplied with stock of all sorts, but in point of value and condition, by far inferior to any exhibition of former years within our recollection. Fresh milking cows and stores of any description were in demand, and high prices were obtained for them, as well as for sheep and lambs in good condition; but owing to the scarcity of hay and grass, lean stock was not in demand. There were a few useful horses on sale, particularly draught horses, for which there were buyers, and many others of an inferior grade, which were not saleable.

ELSTOW FAIR was most abundantly supplied with stock, particularly of the lean sort. A few fat beasts met with a ready sale, and some business was also done in horses. The sheep pens, which were well filled, were not visited by many buyers.

At **ILSLEY FAIR** there were one hundred fine southdown tegs, fourteen months old, bred and fed by Mr. Humphery, of Boxford, for which he asked three guineas per head; they were afterwards purchased by Mr. Munt, of Streately, at 50*s.* out of their wool.

NEWARK FAIR.—There was the largest show of sheep at this fair known for many years, but those sold obtained very scanty prices, and more than one-half were driven away unsold. Good hogs fetched 23*s.* to 30*s.* per head. The show of beasts was small, and fat ones fetched 8*s.* to 8*s.* 6*d.* per stone: lean stock was very low. The horse fair was decent; there were many good horses, chiefly of the cart kind, which sold readily.

At **MARKET DEEPING MAY FAIR** there was a large show of store beasts, which met with a dull sale. There was also a good supply of fatstock, which fetched very high prices. The sheep fair was small.

BIGGLESWADE WHIT-MONDAY FAIR was better attended than usual; good things sold well, for inferior descriptions there was not much call.

SWINDON, May 22.—At our fair a stagnation prevailed in the heifer trade, owing to the general scarcity of keep, and the continued ungenialness of the weather, yet, notwithstanding, for once strong prices were demanded and obtained in many instances. A great quantity of Devon oxen were exhibited, many of which, as well as heifers remained on the dealer's hands at the close. There was a brisk demand for beef, and the whole was cleared off at from 10*s.* to 11*s.* per score, and a few prime ones may be quoted at 11*s.* 6*d.* Mutton realized from 6*d.* to 7*d.*, and lamb 8*d.* to 9*d.* per lb., of which there was rather a sparing supply. The horse show was inferior and not much business done.

FORFAR.—A more than usual supply of cattle, of all sorts, was exhibited in the May market here. Prime

fat brought the ordinary price; but the cattle for the grass, which formed the great bulk of the stock, sold heavily throughout, and declined in price in the afternoon. Milk cows were in demand, but at low prices when sales were effected.

ELGIN CATTLE MARKET.—There was a great number of cattle on the green, but owing, as is supposed, to the backwardness of the season, and the want of pasture, scarcely a purchase was made. There could not have been a worse market.

CULMSTOCK FAIR was very largely supplied with stock, the greater part of which consisted of poor bullocks, of which there was double the number ever seen in the fair before it is supposed. Nothing met with any thing like a ready sale, except fat bullocks, which was caught up at from 11s. to 12s. per score. Poor cattle were remarkably low—in fact there were no purchasers. The scarcity of grass is most distressing.

OTTERY FAIR was well supplied; there was a large stock of poor bullocks, which met with just such a reception as they did at Culmstock, and there was the same readiness to buy fat beef.

DREWSTEIGNTON FAIR was plentifully supplied, but very little doing. There were some good fat bullocks, but mostly remained unsold. Scarcely any sales effected on store cattle. Good cows and calves were picked up early. A fair supply of sheep with nothing doing. Lambs pretty good sold readily. The complaint of a scarcity of keep is prevailing from all quarters. The apple trees look well, and are showing a healthy bud, so that cider is looked for, especially from the orchards that produced little last year.

At **SWINDON FAIR** a stagnation prevailed in the heifer trade, owing to the general scarcity of keep, and the continued ungenialness of the weather, yet, notwithstanding, for once strong prices were demanded and obtained in many instances. A great quantity of Devon oxen were exhibited, many of which, as well as heifers remained on the dealers' hands at the close. There was a brisk demand for beef, and the whole was cleared off at from 10s. to 11s. per score, and a few prime ones may be quoted at 11s. 6d. Mutton realized from 6d. to 7d., and lamb 8d. to 9d. per lb., of which there was rather a sparing supply. The horse show was inferior and not much business done.

CUPAR MAY MARKET.—There was a very full supply of fat stock, which were all bought up, at from 5s. 9d. to 6s. 6d. per imperial stone. Owing to the backwardness of the season, the sale of lean stock was dull, but those in fair condition were disposed of at high prices. There were few calving cows in market, and those of superior quality brought good prices. There were some horses in the market, but the business transacted is not worth noticing.

WHITSUNBANK FAIR.—At this fair there was a good show of hogs, best giving from 30s. to 38s.; Cheviot ditto, from 15s. to 17s., with very dull sale. There were a great many grazing cattle, which met a very dull sale; two-year olds from 5l. to 8l. a-head. A very small show of fat cattle, which brought from 6s. to 6s. 6d. per stone. Upon the whole it was a very dull market.

RENFREW MAY FAIR was well attended. The number of cows in the market amounted to between 500 and 600, chiefly of an inferior quality, for which comparatively high prices were demanded. Sales were tolerably brisk in the early part of the day, but towards the conclusion they began to slacken—beasts for which 8l. 8s. was refused at twelve o'clock being sold at three o'clock at 7l. 10s., with little disposition to buy. The extreme prices may be taken at 5l. and 15l. The medium prices of inferior animals were from 6l. to 7l. 10s., and superior and good milchers, 8l. to 12l. and 12l. 10s.

At **DUN'S MUIR TRYST** there was a fair show of cattle. Dealing was remarkably dull for all kinds of cattle except prime fat, which sold briskly at improved rates, the best quality being worth 6s. 8d. per imperial stone, sinking offals. A large number of small beasts unsold.

At **PAISLEY MAY FAIR** there was a good attendance. In the cattle market the show of milch

cows was tolerable, but sales very dull, and prices low, running from 8l. to 12l.

ASHFORD FAIR.—The supply of beasts was unusually large; few purchasers, however, were to be found, owing to the present scarcity of keep.

THE YOUNG CROPS.—A Herefordshire correspondent writes:—"The pear trees throughout the orchards in this county now represent a finer appearance as to blossom than is remembered for years; it is probable there will be an immense quantity both of cider and perry made this season. In other respects the gardens look wretched, vegetation being at least a month later than usual. The wheat upon the poorer soils is looking dreadfully bad, whilst barley is coming on well, so that from the singular state of the season, it is not improbable barley will be mown before the sickle is put to the wheat, and we shall have the grain and hay-harvest at the same time!"

THE OAT CROP.—We are extremely sorry to hear that the oat crop on the forest, in the neighbourhood of Retford is looking very indifferently, owing, in a great measure, to the ravages made by the wireworm. Some fields have already been ploughed up again, and several others are so injured, as ultimately to take away full one-third of the crop.—*Doncaster Gazette.*

A Leicester Hog Ram bred by Mr. Thomas Prickman, of Broadnymett Barton, North Tawton, was on Friday, the 12th inst., shorn, the Staple of the Wool being fifteen inches long, of excellent quality, and the fleece weighing 23½, exclusive of the tail-docking, which had been previously taken off. The ram was the same day sold to Mr. Norris, of Zeal, and is considered by competent judges to be more than thirty pounds per buarter.

The loss of cattle to the farmers on the Glamorgan-shire coast, owing to want of keep, has been dreadfully severe. One farmer, near Lantwit Major has already lost 55 head. The loss in the parishes bordering on the coast, is, we fear, almost general. It has been stated as a fact, that in some parts of the kingdom, out-houses have been untatched for provender. Can we do better than again remind farmers of that useful but neglected vegetable provender—furze bruised. Two seasons of scarcity and loss we hope will induce them not to despise so simple a provision for times of need. Furze is a good substitute for hay.—*Shrewsbury Chronicle.*

MR. HEATHCOAT'S STEAM PLOUGH.—A deputation named by the Highland and Agricultural Society of Scotland met at Red Moss near Bolton on Thursday se'night, according to appointment, to inspect the steam-plough invented by Mr. Heathcoat, M.P. for Tiverton, and working under the direction of Mr. Parkes, engineer. The deputation was composed of the Marquis of Tweeddale, Vice-President, Sir John S. Forbes, Mr. Oliphant, M.P., and other Members, with Mr. Gordon, the Secretary. The machine, as many of our readers are no doubt aware, has been made by Mr. Heathcoat to operate in the first instance on moss, in which it is very efficient. The engine is of 15-horse power, and the plough is attached by an iron band of the width of about two inches. The length of the furrow in the ground operated upon was 304 yards, breadth 18 inches, and depth 9 inches. The furrows were cut on an average in four minutes and a half, which is equal to about half an acre turned over by the hour. The deputation, and many other gentlemen present, from different parts of the United Kingdom, expressed themselves highly gratified by the efficiency of the machinery, and with the exertions made by Mr. Heathcoat to bring to a practical result the application of steam as a power for one of the most important processes in the production of the first necessities of life. Mr. Price, agent on the Marquis of Lansdowne's estates in Ireland, expressed a hope that the machine might be usefully applied on the reclamation of the bogs of that country.

AGRICULTURAL REPORTS.

GENERAL AGRICULTURAL REPORT FOR MAY.

The unpropitious and unseasonable state of the weather during nearly the whole of this month, caused vegetation to be much backwarder than is usual at this period of the year. The Spring months have passed away without our having been, for any lengthened period together, favoured with that mild and pleasant weather usually anticipated at this season. However, there is an old adage, in the agricultural community, which says, that "A cold May air for the barn bids fair;" and we most sincerely hope that this year it will be fulfilled to the very letter.

Although the wheat, oat, and barley plants are exceedingly short, farmers intimate that they do not entertain any doubts—should the weather be favourable—but that the harvest will prove abundant.

Great expense is incurred in all parts of the kingdom in providing a sufficient quantity of dry food, which is scarce, and selling at high prices, for the consumption of the stock, there not being a sufficient quantity of grass in the pastures and on the sheep downs for that purpose.

Owing to the limited state of the supplies of corn exhibited in most of the leading markets, and the backwardness of the crops, a considerable enhancement in the prices has taken place, with a brisk demand; but the currencies of fat stock have been about stationary, whilst the supplies have been moderately good.

Those farm operations usual at this period are all well in their place.

The late favourable change in the weather has had a most beneficial effect upon vegetation, and has imparted to it a healthy appearance; indeed, the whole face of the vegetable creation has assumed a most delightful and enchanting appearance.

The following is a retrospective statement of the numbers of fat stock which have appeared in Smithfield Cattle Market since our last month's report, and prices at which they have been disposed of:—

SUPPLIES.				
	Beasts.	Sheep & Lambs.	Calves.	Pigs.
April 28 ..	672	3476	110	322
May 1 ..	2564	16020	200	421
— 5 ..	735	5100	210	396
— 8 ..	2562	17700	210	425
— 12 ..	872	5940	252	386
— 15 ..	2520	19020	300	398
— 19 ..	768	5762	234	372
— 22 ..	2865	22030	252	396
— 26 ..	764	9100	285	292
Total ..	14322	104348	2053	3408
Supply of preceding month. }	12829	95246	1310	2757

It will be seen by the above comparison, that the supplies have been considerably larger of all kinds of stock than were those of the preceding month, there having been 1,493 beasts, 9,102 sheep and lambs, 743 calves, and 651 pigs more exhibited in the market this month than last.

There have been received from Norfolk, in the course of the month, 7,414 Scots, and home bred; from Suffolk, 289 home-breds, Scots, and Devons; from Essex, 121 Herefords, runts, and Devons;

from Cambridgeshire, 85 short-horns, runts, Scots, and Herefords; from Lincolnshire, 114 short-horns; and from Leicestershire, 110 short-horns, and Devons; from Northamptonshire, 82 short-horns, Herefords, and runts; from Derbyshire, 20 Devons, short-horns, and Scots; from Staffordshire, 53 Staffords, and Herefords; from Warwickshire, 61 short-horns, Devons, Herefords, runts, and Irish beasts; from Oxfordshire 44 Devons and runts; from Shropshire 48 Devons and Scots; from Durham 43 runts and Durham cows, steers, and heifers; from Buckinghamshire 54 Herefords, runts, and Devons; from Herefordshire 85 Herefords; from Worcestershire, 52 runts, and Devons; from various parts of Wales, 62 Pembroke runts and Devons; from Gloucestershire, 44 runts, Devons, and Irish beasts; from Somersetshire, 61 runts and Herefords; from Devonshire, 96 Devons; from Dorsetshire, 70 Devons, Herefords, and Welsh runts; from Hampshire 58 Devons and Herefords; from Wiltshire, 70 runts, and Devons; from Berkshire, 72 runts, Herefords, and Irish beasts; from Hull, by steam vessels, 248 short-horns, and Devons; from Aberdeen, Inverness, and Bunnf, 2,402 Scots, by sea; from Sussex, 87 Sussex oxen, Scots, Herefords, and Devons; from Surrey, 67 cows, Devons, and Scots; and from Kent, 78 Herefords, cows, and Devons. In addition to the above enumerated supplies, there have appeared in the market about 225 lusty and fat town's-end cows, which have been sent in by the marshmen, cow-keepers, and cattle-lodgers, residing a short distance from the metropolis.

PRICES.

Per 8lbs, to sink the offals.

	April 28.		May 26.	
	s. d.	s. d.	s. d.	s. d.
Inferior Beef	2 6 to 2 8	..	2 4 to 2 6	8
Middling, do.	3 0 to 3 6	..	2 10 to 3 8	6
Prime, do.	4 0 to 4 4	..	4 0 to 4 6	6
Inferior Mutton	3 0 to 3 2	..	2 8 to 3 0	0
Middling do.	3 6 to 4 8	..	3 2 to 4 2	2
Prime ditto,	4 10 to 5 0	..	4 4 to 4 6	6
Lamb	5 0 to 7 0	..	5 0 to 6 4	4
Veal	4 2 to 5 4	..	4 0 to 5 0	0
Pork	3 6 to 5 0	..	3 6 to 5 0	0

A comparison of the supplies and prices of fat stock exhibited and sold, in Smithfield on Friday, May 27, 1836, and Friday, May 26, 1837.

At per 8lbs, sinking the offals.

	May 27, 1836.		May 26, 1837.	
	s. d.	s. d.	s. d.	s. d.
Coarse and inferior beasts	2 10 to 3 0	..	2 4 to 2 6	6
Second quality do.	3 2 to 3 6	..	2 10 to 3 2	2
Prime large oxen	3 10 to 4 2	..	3 6 to 3 8	8
Prime Scots, &c.	4 4 to 4 8	..	4 0 to 4 6	6
Coarse and inferior sheep	3 4 to 3 8	..	2 8 to 3 0	0
Second quality do.	4 2 to 4 6	..	3 2 to 3 6	6
Prime coarse-wolled do.	4 8 to 4 10	..	3 10 to 4 2	2
Prime South Down do.	4 10 to 5 0	..	4 4 to 4 6	6
Lamb	5 10 to 6 6	..	4 0 to 6 4	4
Large coarse calves	4 2 to 4 8	..	4 0 to 4 6	6
Prime small do.	4 10 to 5 2	..	4 8 to 5 0	0
Large hogs	3 6 to 4 2	..	2 3 6 to 4 2	2
Neat small porkers	4 4 to 4 8	..	4 8 to 5 0	0

SUPPLIES.

May 27, 1836. May 26, 1837.

Beasts	690	764
Sheep & Lambs	4,500	9,100
Calves	200	285
Pigs	320	292

About three-fourths of the supply of sheep exhibited this month, which have been principally derived from Sussex, Kent, Essex, Hampshire, Dorsetshire, Devonshire, Wiltshire, Somersetshire, Lincolnshire, Leicestershire, Northamptonshire, and Middlesex, have consisted of South Downs, old and new Leicesters, Lincolns, and Kents and Kentish half-breds: the remainder, of horned Dorsets and Somersets, white-faced Gloucesters, and English fed Scotch and Welsh sheep: with 2,893, from Scotland; 1,565 from Boston, in Lincolnshire, and 876, from Hull, in Yorkshire, the whole of which came by steam vessels.

The supply of lambs has been chiefly composed of South Downs, Leicesters, Lincolns, and horned Dorsets and Somersets, with 325, by sea, from Scotland.

From Ireland, there have arrived, about 280 live pigs, by steam boats.

As but few sheep now appear in the wool, the prices above quoted are for those shorn—we deeming it unnecessary, to make any further distinction between those which are shorn and those which are not.

Notwithstanding it has been stated, in some of the Scotch newspapers, that both beef and mutton may be purchased, at considerably lower rates in Smithfield than in Scotland, the arrivals hither, this month, have, as will be perceived above, been larger than almost ever before witnessed; but the prices realized have not been very remunerative to the shippers.

Many persons have expressed their surprise, considering the inclement weather which has been experienced, during the past winter, and the great scarcity of pasture herbage, that the stock should have arrived in such prime condition.

A statement of the quantities of slaughtered meat, which have reached Newgate and Leadenhall markets, in the course of the month, from the under-mentioned quarters.

	BEASTS. Number of Carcasses.	SHEEP. Number of Carcasses.	CALVES. Number of Carcasses.	PIGS. Number of Carcasses.
Scotland ...	28	1509	—	429
Yorkshire ...	32	1114	—	996
Essex ...	28	222	464	292
Berkshire ...	26	215	840	109
Wiltshire ...	22	233	2195	116
Sussex ...	18	167	77	126
Surrey ...	40	240	555	510
Hampshire ...	36	192	495	82
Devonshire ...	17	505	535	37
Gloucester ...	29	216	696	104
Total ...	277	4607	5887	2801
Supply of preceding month. } 434	10075	9982	4176	

The number of packages of beef, the average weight of which has been 212lbs., which had arrived has been 95, most from Scotland and Essex.

As the summer is now advancing, we do not anticipate any dead stock to reach London, from any quarter, except, indeed, from within its immediate neighbourhood—it being impossible, to convey it hither, in warm weather, in a wholesome condition. As the supplies of dead stock decrease, those of live increase. We have received, since our last, for the purpose of being slaughtered, and sold in the above markets, without appearing in Smithfield, 200 beasts; and 920 sheep and lambs,

NORFOLK.

Month after month passes away, and our notice still unchanged—the same incongenial state of the atmosphere retards the progress of vegetation—the same uncertainty prevails with regard to the ultimate

effect of such an unprecedented prolongation of weather so nearly approximating to that of winter, and the same fear is entertained, that a late harvest, which is now inevitable, may be productive of unpleasant consequences. For ourselves, we deem this latter circumstance to be attended with just grounds for apprehension, but as far as regards the present appearance of the crops, whether of grain or pulse, our opinion remains unchanged: namely, that though the present is a backward season, it does not necessarily follow that it should be an unproductive year. The crop of hay will be short of itself, and the diminution in the bulk, arising from the extra quantity of land required for summer feeding, will tend still farther to abridge the winter stores, and to which the exhausted condition of the old stock, and we may fairly conclude, that the price of that article will rule high at the approach of next winter. Nothing is wanted but a milder temperature and more of the sun's rays to induce a more vigorous vegetation—the earth has been sufficiently replenished with rain, yet not saturated with an excess of moisture, consequently the land is in good tilth for the reception of mangel-wurzel and Swedish and other turnip-seeds—the sowings of the former are principally completed in a very satisfactory manner, and the preparations for the latter are in great forwardness, with every prospect of a successful termination. Good turnip-seed is every where enquired for, not so much from any scarcity which may be apprehended in the present season, as with regard to that which may be anticipated in the year following. The scarcity of cattle food has been such, that few people could afford to spare even a load or two to plant for seed; consequently, with the exception of here and there a patch sown as an after crop, and preserved for seed in the cottage gardens, there is no provision made for the service of next year or for the contingencies of any future period. There does not appear at this moment to be any want of employment among the labourers in husbandry, nor do we hear any complain of the inadequacy of their wages, the principal reason for which perhaps may be traced to the diminished number of hands; first, by emigration, and secondly, by the drawing off a portion of the men to work upon the rail-roads. The *professed rigour* of the "poor law amendment act" has certainly had the effect of sending a number of families to seek a better condition among savages, than they expected to find in civilized society. We make use of the term "*professed rigour* of the poor laws," because we think they were blazoned forth in a manner calculated to intimidate and alarm those, it is asserted, whose condition they are intended to benefit. Whatever the intention of the legislature may have been, we are happy to observe the lenient spirit which has characterized most of the unions in bringing that law into operation, and however we may have regretted that some of its provisions should have become the law of the land, we would be the last to offer any interruption, or advance any reasoning that should make it still more unpalatable to the labouring poor; and we do most decidedly condemn the misplaced zeal, or party spirit, or whatever other motive may actuate those persons who now perversely endeavour to subvert its principle and embarrass its introduction, by inciting the poor to acts of riot and insubordination, which we know too well has been done, or attempted to be done, by the gratuitous distribution of printed bills, setting forth acts of oppression, which if true, only redounded to the discredit of the parties concerned, and not to the general bearing of the act itself. There is also a feature in the "*parochial assessment act*," which is manifestly oppressive

and unjust; namely, that of assessing cottages to the poor-rate, the payment of which it is imperative upon the overseer to collect and enforce. The hardship of such a proceeding is universally admitted, and the remedy proposed is, that of making the landlord subject to the payment instead of the tenant. For ourselves, we don't see either the policy or the fairness of so doing, cottages are a very bad property to hold as it is, and of course, if they were saddled with this obligation, the owners would either suffer them to fall into delapidation and remove them altogether, or would re-emburse themselves by advancing the rent. It appears to us, that all cottages of a certain description and let at a certain rent, say three pounds ten shillings or four pounds per annum, should be discharged from the payment of all parochial rates whatever.

ESSEX.

During the last fortnight we have had a succession of cold north-easterly winds, accompanied with hail storms and thunder; hardly a ray of sunshine has been seen. The grass, which was just recovering from prior frost and cold, has had another check, and the feed has rapidly disappeared before stock; indeed, so much so, that great fears are entertained that more extensive sacrifices of them must be made. We never remember our cattle markets so full of lean stock as they are at present,—on our last market day we counted nearly 200 lean beasts, which is ten times as much as is usual at this time of year. In the feeding of sheep in fields, where there is no water, we would recommend a supply to be given them in troughs, as it is hardly credible how much better they fatten with, than without it; it is attended with small expense, and amply repays the trouble. The appearance of the wheat in this county we consider extremely good; in the Rochford and Dengies hundreds particularly, the appearance is such as to promise, under a favourable season, a most luxuriant and productive harvest. In the Rootherings too, the wheats look remarkably well, and with all kinds of spring corn promise an excellent crop; we admit it is extremely backward, but this gives no room for any anxiety as to productiveness. We were conversing with a gentleman, the other day, who stated he once knew a season very similar to this, when he did not begin harvest till September; he stated he had never since had so good a harvest in quantity and quality. Our impression is, that warm weather now, would bring the corn on in our district so rapidly, that little or no more backwardness would be experienced than usual. There are many farmers who little thought of buying hay at this advanced period of the season, but from the number of loads which have passed our door during the last fortnight, we should say the consumption must have been very great. A gentleman in our neighbourhood, is now mowing a very excellent piece of rye and trifolium, and cutting it up with wheat straw into chaff, and he states the cattle are doing exceedingly well upon it; we would recommend to all farmers the adoption of the system of cutting their first mowings of vetches into chaff, as besides being much more economical, it is far less likely to affect the horses with gripes, than when given at first alone: there are many machines now made, which, with a man and a small boy, can cut 30 or 40 tons per day, and wishing to give every one a fair meed of praise, we consider "Rowley's" a capital machine for the purpose; we have tried several, but we can find none other so good, and cut so clean. We are glad to find the corn markets

rallying a little from their late depression; from the average stock in hand in our neighbourhood, we should be inclined to think, if other parts are as well supplied, no fear need be entertained as to a want of grain previous to next harvest; the stack-yards, for the most part, are empty, it is true, but we know of some considerable quantities yet lying in granary, and will not, most probably, make its appearance till under an improved market; to say there is that great quantity with us as there was two years since, is untrue, and we augur from this a fair remunerating price for our next produce. A great quantity of land in our neighbourhood, has this spring been sown with barley or oats, which was intended for wheat in the autumn, in consequence of extreme wetness then rendering it an impossibility to put it in; if this, as we hear, be a general thing, it will also tend much to keep up the prices of wheat. There are many opinions afloat as to the cause of the diminution of the malt duty here, and some ascribe it to the little malt made the former part of the season in consequence of barley being so dear, and as much has been made since, barley has fallen in price; the duties on that so made will go to the account of the next quarter, others ascribe it to the reduced quantity of beer drunk by our labourers, from the operation of the New Poor Law Bill; we are inclined to think the consumption has been greatly affected by it, as we do not see our beer-houses half so numerously haunted as when the old system of paying the poor gave the preference to the idle and the profligate frequenters of these public nuisances.
— May 26. W. C.

DERBYSHIRE.

As yet the trembling year is unconfirmed,
And winter oft at eve resumes the breeze,
Chills the pale morn, and bids his driving sheets,
Deform the day delightless; so that scarce
The bitter knows his time, with bill engulf'd
To shake the sounding marsh; or from the shore
The plovers when to scatter o'er the heath,
And sing their wild notes to the listening wate.

THOMPSON.

That favourable weather which existed at the latter end of the last month changed into cold wintery weather at the commencement of this month, and has continued to the present, vegetation has suffered severely. The fields are now clothed in an unhealthy appearance. The pastures are unusually short, and I think that cattle generally is suffering as much from a want of keep at the present time as ever they have done, during the winter. The farmer has been obliged to turn out his cattle into the fields from the extreme scarcity of keep, and from being so necessitated the ground has been completely overstocked. A great deal of cattle is dead, from being so pined during the winter, and when turned out to grass has not been able to bear the change of food. Wheat has improved very little during the last month, the weather has been so unfavourable to vegetation, but should the succeeding month prove fine, I think there is a probability of its making a full crop. Oats and barley came up well and even, and though backward, should the weather be favourable the next month, there is every probability of a sufficient remuneration. Beans are doing very indifferently, a great deal of the seed seems to have perished in the ground, and the severity of the weather has tended to effect the health of the plants generally. Winter tares have improved during the last month, though astonishingly short, and will be a good time ere they are ready for the scythe. Spring tures are doing

tolerably well, considering the uncongenial state of the weather they are short but healthy. Hay has continued remarkably firm in price, or rather a little upon the advance, the average being 9*l.* per ton. Straw is scarce, the average being 5*l.* per ton. Our fat stock markets are remarkably firm, while lean stock is equally as dull as it was three months ago, keep being equally as scarce as it ever has been at any period during the winter. Our corn markets are firm with a little advance, though comparatively little alteration in prices, but I think there is a probability of corn advancing] for the stack-yards are empty.

NOTTINGHAMSHIRE.

The favourable weather which I mentioned existed at the latter end of the last month, was but of short duration. The wind veered round to the north, and has remained there, during the whole of this month with very little variation; the weather has been extremely cold for the season, and that delightful imposing appearance which clothed the vegetable world at the termination of the last month, has been changed to a blue sickly aspect, so unusual to the season of the year. Grass land has a most wretched appearance from the influence of the cold north winds, which prevail, the pastures are unusually short, having grown very little during the last three weeks from the incongeniality of the weather, and the farmer has been obliged from the scarcity of keep of every description to lay upon his lands a greater quantity of stock than he otherwise would have done, had he been provided with a better store of winter provision, so that under present circumstances the ground is very much over-stocked. Wheat during the latter end of last month, and the commencement of the present, had improved very much in appearance, and has till now continued to collect in its root. But its appearance at the present is not very imposing, it is suffering alike with the remaining part of the vegetable world from the incongeniality of the weather; but should the weather be favourable for its growth during the next month, I think there is a probability of a full crop. Barley has come up remarkably well, and particularly even in its growth, but it is in a very backward state from the influence of the cold north winds, still its appearance is not so indifferent as might have been expected under existing circumstances. Oats that were sown early have rather a sickly aspect, while those which were sown later, not having been so much exposed to the cold winds are doing tolerable well. Beans are very indifferent, having suffered so much during the months of March and April, that I think there scarce remains a probability of their ever becoming a crop. Winter tares are in some places entirely a failure from the severity of the winter, especially those which were in cold exposed situations, while others that were otherwise situated are doing tolerably well; as regards their appearance I cannot speak very favourable, the best of them being remarkably short for this season of the year. Spring tares, considering the unfavourable weather which we have had, are doing very well, though in general they are beginning to want more sunshine and rain. Some few farmers have already sown their Swedish turnips, while others are busy in preparing their grounds for sowing, but though the weather has upon the whole been dry, still we have not had sufficient sun to cause the process of cleaning the ground to proceed so favourable as might have been desired. The extreme shortness of the pastures has caused hay to advance in price, the average being 9*l.* per ton; our fat stock markets, as

may be expected, are particularly firm; while lean stock of every description is astonishingly dull, and heavy sale, arising from the extreme scarcity of keep of every description. I never remember seeing vegetation in a more backward state than at the present, considering the season of the year. Our corn markets are firm, with very little alteration. But if we must judge from the stack-yards, corn must rise considerably, for you may ride over a great extent of country, and not see a single stack remaining, so that where we are to draw our supplies from for the next three months remains a question.

BEDFORDSHIRE.

Our last report left us in the middle of April, when the weather was as severe as is usually experienced in the month of February, and which continued so nearly to the end of the month, but which was afterwards succeeded by a plentiful fall of rain, and a milder atmosphere, so that our fields at length are presenting a spring-like appearance. We are far, however, from experiencing the usual warmth of this season of the year, and vegetation, upon the whole, is still remarkably backward. We alluded, in our last, particularly to the great inconvenience sustained in providing food for the cattle, and this difficulty has scarcely abated at all, even up to the present time; though the young tares and rye have afforded some little temporary relief, still the weather of late being showery, the sheep have generally done badly upon them, especially where they had been kept sparingly before. Taking, therefore, the season altogether, we never remember so disastrous and expensive a time for flock-masters generally. We are strongly reminded this year of an old provincialism of this part of the county,—“The stock have eaten their heads off.” Such has been the distress for food, that most of our farmers have hitherto had to feed, indiscriminately, the whole of their young seeds and grasses, and in the few instances where they have been saved (except upon the very best soils) there is scarcely any grass as yet upon the ground. Where, therefore, the hay is to come from, and when it is to be harvested, we are at present quite at a loss to conjecture. The wheat crop, though in many places a deficient plant, has much improved, and may yet make an average crop, though our own opinion concerning it is not very favourable. The barley was remarkably well put in; and though, from the extreme cold weather, it has, in many cases, turned pale and sickly, yet we feel no serious apprehensions of any material failure. We are much more concerned as to future prices, feeling confident that unless the odious and impolitic malt tax be repealed, or greatly diminished, from the falling off in the consumption of beer, the price of this article will be wretchedly low. The turnip fallows, where they were worked early, are in fine condition; and our best farmers have put in their mangel wurzel under very favourable circumstances, having had repeated showers to fetch them up. Surely, after the season we have just encountered, no person who keeps either a sheep or a beast will in future be without this excellent root. We have never had but one opinion of this vegetable, and that is, that they who do not estimate it highly, know not either how or when to use it. Prices of all the leading articles which farmers have to sell have experienced a very great depression of late, namely, wheat, barley, and wool, and which has already given a very serious check to the numerous improvements which were going on. Indeed it cannot be otherwise;—with extreme low prices,

the ordinary burdens of agriculture in this country cannot be sustained, much less can a surplus population be employed. And we are very sorry to have to report that the labourers are already feeling the ill effects of the farmer's diminished means of employment; and nothing pains us more than to see our industrious peasantry roaming about without the legitimate means of subsistence. We have always considered the new workhouse system to act as a reasonable check upon idleness and improvidence; but we cannot in our conscience tolerate the idea of our *letter labourers* having to break up their little establishments, and become the inmates of these houses. We very gratefully acknowledge, however, that the families of our labourers derive immense advantage, in the southern parts of this county, and the adjoining counties of Herts and Bucks, from the extensive straw-hat manufactories which are carried on here; for it not only furnishes profitable and healthy employment to the wife and children of both sexes, but in times of slack employment, and in the long winter evenings, the husband having learnt the business in his boyhood, sets himself to work. We may be thought, perhaps, to be travelling somewhat out of our way in alluding to this manufacture in an agricultural report, but having had ocular demonstration of the great benefit which the whole of our rural population is deriving from this employment, and feeling it always to be our duty to bring before the public everything connected with the welfare of the poor, as well as that of the occupiers of the soils, we have felt it incumbent upon us, in common honesty, to revert to these facts. Indeed, though our sphere is purely agricultural, it affords us unmingled pleasure to witness the great perfection to which the gentlemen connected with this manufacture have brought it. And now we are upon this subject, I trust we shall be excused in expressing the feelings of admiration which we experienced the other day, in finding that a new style of gentlemen's summer hats has been lately invented, which from their beauty, durability, and comfort, bid fair to be very generally worn in all respectable circles throughout the United Kingdom. They have been taken up by that public-spirited and enterprising gentleman, Mr. Waller, of Luton, and we believe they are called, "The Brazilian Grass Summer Hats." They are woven with the fingers throughout, not having a stitch in them; they are made either plain or of variegated colours, and of the most fashionable shapes. While, therefore, we disclaim any shadow of interest in these observations, but merely upon patriotic principles, as furnishing the means of employment to thousands of young people, and thereby diffusing comfort and happiness in the country, we very strongly recommend them to the nobility and gentry, through the length and breadth of the land.—May 19.

YORKSHIRE.

The month of May opened with one of the most dreary prospects which the country has had at that season for many years. A cold searching piercing wind from the N. or N. E., accompanied by biting frosts and cold rains, with scarcely a blade of grass to be seen throughout the county; the haystacks deeply cut, the principal part of the straw consumed, the corn crops withered and bleached, some of the land only just sown, much spring corn not above ground, and a poverty-stricken set of cattle completed the dreary prospect. Since then to the 22nd. the weather has been cold, but still the sufficiency of moisture supplied by the frequent falling showers, and the occasional warmth

of the mid-day sun, revived and freshened the face of nature, but it was too cold for the crops to make much progress. For the last four days they have certainly improved, and the present appearance and state we will now proceed to review. The wheat crops have revived much since our last report; there are, however, many parts of most fields entirely, or partially gone off, and several have been sown with beans owing to the complete failure of the wheat with which they were sown; in every place it is thin upon the ground, rather spiry, and very backward. The oat, barley, and bean crops, are very backward but are certainly looking as well as can be expected, but we never remember seeing them so late. We think the breadth of land sown with spring corn this year is above an average, and especially beans, which come up green, broad, and healthy. The pastures are very short, and there is great scarcity of food for the stock; the great want of hay and straw compelled the farmers to turn out at the usual season whether there was grass or not, and the state of the cattle upon the pastures, and sheep upon the seeds, may aptly be termed one of extreme poverty. They take the grass and herbage as it springs, and we observed many young cattle actually turned into the lanes, we apprehend for want of better pasturage. The breadth reserved for meadow must be small, and in almost every case it is hard eaten. The clover leys are very thin and backward, being much eaten by the sheep. Potatoe planting is now in active operation on all descriptions of soils, and though late, it is not later than the generality of crops this season, and to have the land properly cleaned; the planting has gone on in a hurried manner, but the seeds—the plants more properly—have germinated very little, a circumstance highly favourable to the welfare of the crop. Potatoes have been scarce and dear, poor people have had difficulty in procuring them for planting. The sowing of Swedish turnips has been somewhat delayed, though most of those intended to be sown are finished, but we think the breadth is somewhat small. Indeed the more tenacious soils have worked very unkindly, and have been both wild, wet, and cloddy; many of the summer fallows are yet uncrossed, but we do not remember the period when the manure was so well carted out, turned, and prepared as the present. Very little mangel wurzel is sown in this county, it is not considered worth the pains, expense, and heavy dressing it requires; it is quite impossible upon the majority of soils to prepare the land for its reception in sufficient time to secure a crop. The corn-ricks are disappearing almost like magic, not that we consider that they are coming to market, but to provide at least a little straw for the stock. Our markets are rather looking up again, but without some serious and unexpected change takes place, we do not apprehend that there is, or will be, either any deficiency in hand, or that prices will rise very considerably. Sheep-shearing has commenced, but the weather is cold for the operation. We believe the clip will be unusually light from the unfavourable state of sheep keep both during the autumnal and winter months, but more especially those of March and April. Beef and mutton are ready sale, but lean stock are scarcely saleable at any price.—May 27.

DURHAM.

From the date of our last report, the weather has been exceedingly cold and ungenial for the season; we have had three or four fine days which was

cheering, and had the appearance of spring, but the wind has invariably shifted about to the north with all the appearance of winter again, which has checked vegetation to a degree seldom or ever witnessed, and has produced consequences most serious to the farmer, as turnips are quite exhausted, and stackyards empty, and the loss of stock that are perishing for want of food is most alarming. The growing crops have made little progress. Wheat is healthy and has a firm root-hold, but it wants warm sunny weather; it is now very evident that the harvest must be a late one, and should the granaries not be well stocked with wheat prices must advance before harvest. At Stagshaw fair, which is considered one of the largest in the north, lean stock was difficult to be disposed of, and bore evident marks of the severity of the winter and scarcity of food. Fat stock of all kinds are very scarce and advancing in price, and must advance, should this dreadful and endless weather continue, as beef and mutton cannot grow unless animals have sufficient food; lambs are poor and expected to be dear, from the immense losses, which have been of that magnitude that it will be a work of time before many farmers can get up their stock again, and sheep cannot be plentiful for some time to come. The farmers are beginning to put on long faces, for they begin to think that the approaching summer is going to be of the same character as the last eight months of winter. Potatoe planting is going on slowly, we should recommend our brother farmers to roll them after being furrowed up, with a heavy roller; we have seen good effects result from this operation, it prevents the drought from getting down to the seed. The early sown spring corn has come up thin, which may be imputed to the extreme wet, cold, and unpropitious weather, and it laying such a length of time in the ground. Very little of the late-sown has come up. Clover and seeds promise to be a light crop, the clover is gone off from the inclemency of the weather, it is difficult to say what price hay may reach should the crop prove light. The corn markets are advancing, we have very small markets of wheat and oats, from the immense consumption of the latter grain for sheep and cattle (to save life.) We fear there will be a scarcity, unless we have large importations from Ireland. This year's clip will be a very inferior one both as regards quantity and quality, and will put very little money into the farmer's pocket, compared with the last few years; there will be many clips which will consist one-half of cotts, which only brings half price. Swedish turnip sowing has commenced, and is not working kindly, it ploughs up livery, and is difficult to reduce by harrowing and ridding, which may be attributed to the continued heavy rains, and unless there is a fine tilth for turnips it is a waste of time to sow them; the hybrid turnips is much liked in this county, it is between the Swede and white globe, cattle are very fond of it, and is exceedingly nutritious, and of large size. May 20.

GLAMORGANSHIRE.

Up to the commencement of the present month, the weather continued cold and ungenial, to a degree which we have never known before. The average temperature of April being that of February, from the 9th to the 20th, the thermometer during the nights generally receded below 30 degrees; vegetation consequently remained dormant, and the face of nature had for the end of April a most disheartening appearance. Stock suffered the most severe privations, and very considerable losses have taken

place. In some places furze and hay were the chief support of the cattle, especially the latter, which was carefully collected from all quarters. However, after a period of suffering unprecedented, we believe, in the memory of the oldest person living, a favourable change took place; some rain fell, and the temperature became gradually milder. In this short period vegetation has made tolerable progress in the young wheats and clover, grass land being previously so unusually bare is still backward, and the young grass is so young and tender, that cattle in their present poor condition can scarcely exist on it without dry food. The dry weather proceeds highly favourable for preparing the fallows for mangel and turnips. The former have been set with a better prospect of a crop than in the two or three last years, although the moisture is still deficient to produce vegetation. Barley sowing has been completed in good order, and the beard came up well; during the last week some sharp frosty nights have given it a yellow tinge, which requires a little warmer weather to recover. The young wheat, although considerably improved, is still thin on the ground and backward; spring wheat still more so. The hay ground having been grazed in most cases to the 1st instant, cannot yield an average crop even with the most favourable weather hereafter; for the last few days the cold easterly winds had completely checked it. The young clover, which promised so well in the autumn, lost a great portion of the plant in the spring, and we see no prospect of a good crop of hay, and as the old stock is totally exhausted the price must keep up for another season. Fat stock are extremely scarce, and our markets are at present supplied chiefly with veal. Barley has taken a turn unforeseen both by the sellers and buyers, which cannot easily be accounted for; lately the same samples have been sold at 3s., which in November would produce 6s. We are of opinion that this great variation in price has arisen from the imperative necessity by which all farmers were actuated to economise winter provender; straw could not be wasted consequently thrashing was deferred, notwithstanding the urgent demands of the maltster for barley, until the straw was required for the stock. From the great scarcity of barley at the commencement of the season the quantity of malt made is much less than usual, and the stock of barley now left is larger than last year. We have not known for many years so large a portion of the wheat thrashed at this period, and the stack-yards are nearly all cleared out.—May 19.

HULL.

Vegetation during the last week has not only made a stand, but has actually gone back, and the fields are looking worse than they did a week since. The weather continues very cold, with the wind N.N.E. There is at present every reason to expect a late wheat harvest, and if the present sort of weather should continue two or three weeks longer, it must inevitably be very late, unless we should have extremely hot weather in the month of June, which might produce a premature harvest, but in that case a very unproductive one.—May 16.

An opulent farmer residing in the High Peak has 100 tons of hay to sell, but is waiting till a further advance of 2*l.* per ton has taken place, the present price being 10*l.* Average price of hay at the undermentioned places:—Derbyshire, 10*l.* to 12*l.* per ton; Sheffield, 7*l.* to 8*l.* ditto; Manchester and Stockport, 7*l.* 10*s.* to 8*l.* ditto; Uttoxeter, 13*l.* ditto.—*Sheffield Iris.*

REVIEW OF THE CORN TRADE DURING THE MONTH OF MAY.

The lengthened period during which the anxieties of the farmer have been excited, appeared at the commencement of the month to have been brought to a termination, and with magic rapidity. The whole face of nature assumed a cheering aspect, vegetation exhibiting in a striking degree the stimulating powers of heat and moisture: and prices in consequence receded, the trade being deprived of that firmness of character which had previously prevailed; and though there was partially an increased facility in the procuring of money, yet the markets continued heavy, the fine weather counteracting all speculative feeling. Towards, however, the middle of the month we experienced one of those fitful changes to which our climate is liable; the genial temperature, sunshine, and westerly gales having been superseded by bleak north-easterly winds, accompanied with frost, snow, and hail, the thermometer in the metropolis having fallen as low as 34 degrees, and the night frosts severely checking the growth of plants, the very period that its advance is most accelerated. In Scotland, and the borders of England snow was lying on the ground. A chill ungenial state of atmosphere continued to prevail until about the third week in the month, and was beginning to create a subject for serious consideration. It was not therefore to be wondered at, that a very general feeling of speculation existed amongst the farmers, and a reluctance to accede to the existing range of currencies; the markets consequently being kept in limited supply, and the stocks of wheat in merchants and speculators' hands being extremely short, old granaried parcels having been nearly exhausted, consumers have become more than usually dependent on the growers, and prices must be therefore mainly influenced by their operations, and they have already succeeded in enhancing the currencies fully 5s. per qr. from the earlier part of the month. If mercantile confidence had been completely re-established, and the lowering character of commercial affairs had not pressed money into the public securities for investment, and continued to render discounts less readily attainable, except for first rate paper, we doubt not, that currencies would have ranged much higher. As however it is expected that a climax must shortly ensue, which the failures in the western parts of Scotland too fatally portend, and that the bank having, it is said, determined to render no further assistance to the American houses, the evil of procrastination, which has operated very materially in injuring the markets, by keeping the public in a state of suspense and uncertainty, will be thus avoided, and the worst will be at once known, from which melancholy period we trust that credit, phoenix like, will arise, and spread confidence among all classes of negotiators, and a consequent improvement in prices ensue. The young wheats latterly have been represented as suffering from the cold temperature and absence of sun, looking in many instances yellow and sickly. Barley, which in our principal counties of produce had seldom presented a more regular braird, has partly from losing the support of the kernel, but more from the ungenial weather, turned off, and looks also yellow. Oats have made little advance. In Scotland farmers are actuated from the same causes

as those in England, and especially as regards oats, the demand proving considerable in the northern parts for oatmeal for their distressed countrymen, and the finer qualities are gradually realizing higher prices, and good samples of wheat held on improving terms. In Ireland, however, few complaints are made as to the weather, and the sowing of summer grain being completed, the planting of potatoes and the sowing of flax is proceeding under favourable circumstances, the weather continuing dry, and it would appear much less ungenial than with us. Oats are, however, advancing in price, together with oatmeal, which is more in demand, owing to the high price of potatoes. The speculation, we must remark, in wheat, arises, we are of opinion, entirely from the weather, and not any actual dearth of wheat, but an apprehended scarcity which may arise from certain contingencies, a fact speculators should keep in view; and we are glad to find our opinions corroborated by well-informed parties, that the stocks of wheat in those counties where the article is principally cultivated, are not so much diminished as has been erroneously represented, agreeing with the fact we have previously put forth, that though the number of stacks was much reduced, yet farmers held a much larger quantity than usual of wheat in chaff, having had an extra demand for their straw for cattle.

On the 23rd however, the weather again manifested a decided disposition to assume more its vernal character, since which it has continued to prove highly conducive to the advancement of vegetation, and the markets, in consequence, at the close of May, were becoming much less animated—millers purchasing with caution, and farmers keeping the trade in limited supply were enabled to prevent any material depreciation, though the tendency to any further advance was check d.

The trade in bonded grain has received a decided impulse, and many speculators have been induced to come forward, but owing to the advanced demands of holders of foreign wheat in loco, speculators have preferred transmitting orders abroad, where the prices are ruling relatively much lower; the prices of high-mixed Danzig wheats being noted at 29s.

The flour trade was extremely heavy at the beginning of the month, and millers, owing to the reduced rates of wheats were compelled to lower their demands. The nominal price of best town made qualities was reduced to 52s., or 50s. as a selling rate; ship marks giving also way 1s. to 2s. per sack, since which town made parcels have been free sale at the quotations and ship samples have rallied fully 1s. per sack, though Norfolk households are procurable at 39s. to 40s., the latter being an extreme price. Foreign flour has been arriving rather freely, but a demand continuing for shipment, principally to the West Indies, a fair sale has been experienced at from 25s. to 27s. per barrel.

The better qualities of barley, until towards the close of the month, continued weekly to decline in value, many maltsters having desisted from working, and distillers being well in stock; but grinding descriptions experienced a ready demand for feed, and maintained full prices, but as the weather improved this enquiry fell off; on the return of cold weather

and depressed rates of fine malting sorts, say 32s. to 33s., induced some maltsters to continue working, and a few to resume their operations, which led to an enhancement of 1s. to 2s. per qr. on fine lots, and 1s. on all other descriptions. The trade, however, again flagged at the close of the month, and the improved prices barely maintained—malt has sustained little alteration in the quotations though remaining extremely dull and languid. In bonded barley nothing transpiring, as the stocks of English in the hands of growers, is estimated still large, notwithstanding the extra draught on the article for animal feed.

Though there was a liberal supply of oats from Ireland, especially at the earlier part of the month, and amounting during the month to upwards of 55,000 qrs., yet factors remained firm in their demands, and though purchasers attempted to depress prices by refraining from buying, yet the accumulated want of the article for feed compelled them to accede to the holders' terms, and the currencies must be noted 2s. per qr. dearer for Irish, and 2s. to 3s. for English and Scotch samples, the receipts of the former of which have been 18,600 qrs., and the latter 5,400 qrs. Many country dealers have appeared in Mark-lane, and from much more distant parts than usually attend, indicating the shortness of the stocks in their districts; indeed it was calculated, that there have been buyers from so extended a circle as sixty miles round the metropolis; and as the consumption of oats and hay has been immense, owing to the scarcity of green feed for cattle, the stocks of oats throughout England are calculated to be nearly exhausted, and which appears exemplified by the weekly advance of the article at the leading country markets. In Scotland, the demand is also great for cattle and oatmeal, and prices have for many weeks ranged too high to permit the transport of the article from the usual ports of shipment to Mark Lane; besides, farmers are generally holding for higher prices, the stocks being estimated as barely sufficient to meet their home necessities, and which they will not do, in all probability, with a protracted harvest. We seem, therefore, entirely dependent on Ireland, and even if the supplies still on hand there are considerable, which, however, it is the opinion of many well-informed men, is not the case, yet it is believed that foreign oats will be required for the consumption, and that notwithstanding the quality of inferior Irish oats, is likely materially to check any rapid advance of the averages, yet the extra prices realized for the sound fresh feed will influence the returns sufficiently to reduce the duty to a range that early purchasers of foreign qualities will be enabled to take advantage of for their entry. On Friday factors succeeded in obtaining 1s. per qr. more money, with a brisk inquiry, the supplies proving by no means equivalent to the increased demand. Free on board sales in Ireland are again attracting attention; for Limericks, 13s. 3d. to 13s. 6d. has been paid, and Galways, 12s. 3d. to 12s. 6d., and shippers requiring now higher terms.

These anticipations of a failure in the supply before the new crop can be rendered available, has led to a considerable speculative demand for foreign feed oats, and bonded qualities of feed have advanced 3s., and heavy brew samples 4s. per qr.; and the extensive purchases made abroad for English account have advanced the demands of foreign holders fully 2s. per qr. Common feed Danish oats here may be noted at 16s. to 17s.; black of 36 to 37 pounds 18s. to 19s.; Friesland of 41lbs. 20s.; ditto 43lbs. to 44lbs. 23s. to 26s. For the range of prices abroad

we refer to our remarks on the Hamburgh and Rotterdam trade.

Beans as well as peas having been in limited supply, both articles have attracted attention, both for the consumption as well as speculation. Beans must be noted 1s. to 2s. higher, and peas fully 2s. dearer, and several orders transmitted abroad. Peas in bond have obtained 27s. to 30s. and are held now on higher terms.

The alteration in the duties during the month, consist of an advance of 1s. per qr. on wheat, 1s. 6d. on barley, 1s. 6d. on rye, but a diminution of 1s. 6d. per quarter on oats and peas, the duty on beans remaining unvaried.

The advices from Canada intimate that the spring business was about to commence, the Lachine canal being free from ice, and the steam boats having arrived at Montreal from their winter quarters. No price was fixed, as the probable opening rates of flour, though several parcels were offering for arrival. A small parcel of Lower Canada red wheat had been sold at 8s. 8d. per minot; superfine flour was noted at 10 dollars, and fine 9½ dollars per barrel. Money was more readily attainable. At Kingston, Upper Canada wheat was held at 7s. 6d. per bushel, and flour at 50s. to 55s. At Toronto flour was selling at 40s. to 42s.

The accounts from Van Diemen's Land of the 3rd of January report very unfavourably of the state of the crops, and the harvest on the aggregate was expected to yield much below an average produce, the cold, wet, and ungenial season having proved detrimental to vegetation, or in the words of our correspondent, which are strangely applicable to the state of the weather we have been experiencing in this Antipodean clime, "the total absence of summer, now at midsummer, has caused a very considerable failure in the wheat crop." Barley and oats presented a more satisfactory prospect. Wheat was improving in value, being noted at Hobart Town at 6s. 3d.; at Launceston the article was worth 5s. to 6s., and flour, 15s. to 18s. per 100lbs.

The accounts from Kingston in Jamaica state, that the supplies of flour during the current year exceeded those of the past season by 9,600 barrels, 4,000 barrels of which had however been re-exported to Cuba and New Providence. Some of the later cargoes had proved "hard," and unfit for bakers' use to make fine bread, and the stock of fresh superfine flour extremely limited, and as the last ships from Philadelphia had arrived without any supplies of bread stuff, prices were expected to improve. The quantity of sour flour on hand was considerable, but the accounts from the country notice, that from the continued dry weather there would be a demand for flour, and it appears that sour qualities are particularly well adapted for the country trade. There were no biscuits in importers' hands, but retailers were tolerably well supplied; crackers 60s., pilot bread 53s. 4d. The imports in 1837, of flour, were 21,900 barrels; 1836, 12,254 barrels.

The latest advices from Barbadoes state provisions of all kinds extremely dear, partly arising from the falling off in the usual supplies from America, and from the neglect of the apprenticed labourers, in favour of the cultivation of the cane. The following statistical account offers some idea of the quantity of solid food consumed in Bridgetown and neighbourhood from March, 1836, to March, 1837:—Oxen, 555; calves, 550; sheep, 1,641; goats, 1,347; pigs, 3,070; exclusive of the animals slaughtered privately.

In France the prevalence of cold wet weather is having a similar effect on the markets to that pro-

duced on the British trade, and farmers unwilling to sell unless at higher rates. Fine good conditioned wheats are much sought after by the millers, the humidity of the atmosphere having very generally affected the samples. The weather, however, without inspiring any very great degree of apprehension, is sufficiently unseasonable to lead to a speculative feeling, and at Paris holders were demanding 50 centimes per 1½ hectolitre more. Oats, which have suffered in the low heavy soils, are looking most luxuriant in the light and sandy land, and prices, therefore, though steady, have not advanced, inferior parcels being difficult of disposal. Rye is reported as having suffered most materially from the inclemency of the season. At Paris, prices of wheat were 36s. 3d. to 37s. 3d.; for white and red 28s. 10d. to 36s. 5d. per qr. In the southern markets the influx of supplies had depressed prices.

At Riga the grain trade remained dull, about 8,000 lasts of oats had arrived, half of which remained unsold, Courish qualities being held at 10s. 6d., and Russian at 11s. 6d. Linseed crushing, 33s. Wheat nominal, at 30s. 8d. Rye, 17s. 6d., and about 2,000 lasts offering, 8,000 of the new supplies having been already disposed of. At Königsberg, the wheat trade was dull, and might have been bought on rather lower terms; good new qualities offering at 27s. to 28s., a range of prices lower than had been attained last year. Oats were attainable at 11s. 6d. to 12s. per qr. At Danzig, a momentary demand had been experienced for English account, which having subsided the trade had become heavy, and prices receded, good high-mixed wheats being procurable at 29s. and mixed selling at 24s. to 26s. The arrivals down the Vistula were considerable, and far exceeded the shipments, which would, it was expected, advance the price of granary rent beyond 2d. per qr. per month. The quantity of wheat noticed as having already passed the Polish frontiers exceeded 90,000 qrs., and 20,000 qrs. of Rye. The weather was extremely unfavourable for vegetation, and all grain unusually backward. At Stettin, wheat continued heavy, at 27s. to 28s.; but barley had rather rallied, owing to the decrease in the stocks and the purchases still making for Norway. Oats were noted at 11s. to 12s. per qr. In Mecklenburg, wheat was at 27s. to 27s. 6d. The stock, however, of oats was extremely limited, both at Rostock and Wismar, and, owing to the scarcity of fodder, the consumption had been considerable in the country, and the growers therefore had little to bring to market, prices ranged from 12s. to 14s., and no chance of the execution of orders to any extent. Danish Island oats may be noted at 12s. to 13s., Jutland, the same, Holstein, 11s. to 13s. 6d., Swedish, 12s. 6d. to 13s. 6d. At Hamburg, wheat had rallied, owing to the unfavourable accounts from the upper districts of the Elbe, and the receipt of a few orders from England, and the best wheats were not to be obtained under 31s. 6d. to 32s. Upland barley, 17s. 6d. to 18s. 6d. Oats had already attracted the attention of speculators, and nearly all the disposable parcels in the market have been purchased, viz. about 5,000 qrs. at Elbing, of 36lbs. to 38lbs., at 10s. 6d. to 11s. 6d., and a similar quantity on the Jaldie and West Coast of Holstein at 11s. to 13s., and the stocks generally represented as inconsiderable, and the receipt of additional orders to any amount would occasion a further rise of at least 1s. to 2s. It is, however, remarked that the new oats generally in Holstein and Jutland are not free from granary smell, though otherwise sound. Beans had sold at 24s. 6d., small, and peas fine at 27s. The accounts from the upper parts of the Elbe were unfavourable in refer-

ence to agricultural operations. The weather had been very unseasonable, and frost experienced during the nights; whole districts were so much saturated with moisture as to prevent the sowing of summer grain, and in the neighbourhood of the Oder and Warthebruck, where large quantities of oats and barley are cultivated, the land was quite inundated with water. In parts of Poland the young wheats from the wet and cold were looking thin and yellow. The accounts also from several parts of Germany were unfavourable regarding the rape plants, and many fields reported as being ploughed up. Prices, however, at Hamburg had sustained little improvement, being noted at 23l. to 23l. 10s. per last.

At Rotterdam, as well as Amsterdam, the stock of Wheat was limited, and the weather extremely unfavourable for the growing crops, which had occasioned an improvement in the rates of 1s. to 2s. per qr.; fine Rhenish qualities in bond being noted at 32s. to 33s.; good ditto, 61 to 62 lbs., 31s. 3d. to 31s. 8d. The demand for Oats at all the Dutch ports was increasing, and prices advanced 1s. to 2s. per qr.; Brews of 42 to 43 lbs. were worth 17s. 4d. to 19s.; Polands, 40 to 43 lbs., 15s. 6d. to 17s.; Feed, of 32 to 38 lbs., 12s. 6d. to 14s. 6d. and 15s. Tick Beans ready sale at 20s. to 21s. 6d.; Pigeon samples scarce, and worth 23s. to 25s. Blue Peas in request at 25s. to 29s.; White boiling qualities in limited stock, and worth also 25s. to 29s. It appears that the supplies of old Wheat are nearly exhausted, and that the consumption depends in Holland on the last crops; should therefore any demand for export arise, or the growing crops sustain any injury, prices are likely materially to advance. The export to America, of Wheat and Rye, has been very extensive, and it seems that the Rhine has shipped too freely, and prices are ranging in the Rhenish provinces beyond those of Rotterdam and Amsterdam; and supplies from these cities are not unlikely to find their way back to the districts of produce.

The advices from the United States intimate the grain trade to be in a dull declining state, not averaging more than 1 dollar 50 to 55 cents. per bushel, and good parcels 40 to 45 cents. Flour had receded 1 dollar 50 cents. to 2 dollars per barrel. The quantity of wheat imported from Europe at New York during 1836, was about 61,500 qrs. of which 33,200 qrs. were from England, and from the 1st of January to the 19th of April 1837, the aggregate receipts had amounted to 107,000 qrs. of which 28,800 qrs. were from England. At Philadelphia speculators were spreading reports that the ensuing harvest would prove a failure, in order to give *tone* to the market, and it had so far succeeded in rendering holders more firm at 9 dollars per barrel. Rye had materially receded in value, being noted, at New York, at 90 to 95 cents. for best milling samples of foreign. The markets were completely glutted with inferior qualities of European wheat, and as they had become a drug on the market, re-shipments were on the eve of being made to Europe, especially from New York; a fact which would not imply much dreaded dearth, though it may increase monetary derangement on the part of shippers from Europe to New York.

The prospects of the wheat crops, though represented as unfavourable in Virginia, one of the principal wheat growing States, yet at the departure of the latest advices, they were becoming rather more satisfactory, and in some portions of the State, if the weather continues propitious, were expected to turn out an average produce. The "*Alexandria Gazette*" asserts, that in one of the best regions of Virginia, farmers have ploughed up several acres with the view of seeding the land with oats and

Indian corn, and that the same course would be generally pursued in that neighbourhood; but in Loudoun the prospect was not so bad as previously represented. The *Williamsport Maryland*, "*Banner*" reports very unfavourably of the wheat in that vicinity, and also in the neighbouring counties of Berkeley, in Virginia, especially that portion contiguous to the Potomac. The *Hanover Pennsylvania Herald*, on the other hand says, that the crop may be a fair one. In Buckingham county, we understand, that the prospect is tolerably promising, and on the whole we apprehend it is not so gloomy throughout the States as intimated the two or three previous weeks. The protracted weather has no doubt retarded the vegetation of wheat but unless it is ascertained that the roots have perished, it is highly impolitic and premature in the farmers to plough up their fields, and does not exhibit those usual leading characteristic features, hope and patience, which enable them to cope with the vicissitudes of every clime. A few small lots of Italian Spring wheat, which have in parts of Virginia been sown for the first time this season, are reported as looking well. As at this moment all information is fraught with interest connected with the Corn Trade in the United States, it will be well to point out the causes assigned by the Americans for the depreciation in the value of wheat, arising as it does from causes different to those which are currently believed to have operated disadvantageously on the transatlantic markets. It is to be premised, that previous to the demand becoming urgent from America, most of the wheat in bond in England had been warehoused for three or four years, and that the quantity of really good quality was very limited. Most of the early arrivals in the United States were cargoes of wheat from London and Liverpool, and few, very few, proved perfectly sound, and the same fact is applicable to a large proportion of the heavy exportations which succeeded from the more Northern European ports out of and in the Baltic. Much of the wheat was taken by the American millers as it arrived, who had on hand native grown qualities, with which admixture, they were enabled to manufacture a flour that was taken into general consumption. When the internal water communications closed for the season, and home samples could no longer be procured to mix with the foreign, the flour was made exclusively of the latter, which it has been found, was not suited to the taste of the American consumers, though sold at prices even much below that of the native flour, and the disposal throughout the winter appears to have been on a comparatively limited scale. The favourable account sales of foreign wheat in the fall of the year produced large exports from Europe, and the stocks, though they are now large at the leading ports in the United States, yet not one-tenth of the bulk is in perfectly sound condition, nor does it seem likely that the millers around New York, Philadelphia and Baltimore, will be able to obtain such a quantity of native sound wheat as would enable them to work up much of the foreign corn before another harvest. Thus the Americans are placed in the singular position of possessing in the three principal flour marts, a considerable quantity of wheat to meet their emergencies, but which is almost unavailable, in consequence of the inferiority of its quality, and the millers deprived of the power of improving the manufactured article to any extent. Had the imports proved sound there is little doubt the latter advices from America would have reported a very different state of the market to those received, as the cargoes would have been readily taken off at

fair prices; but under the circumstances, it is to be feared that European exporters will now sustain serious losses on their shipments, as it is generally estimated that, calculating the freight and exorbitant charges, with duties no less than 1 dollar 80 to 85 cents per bushel on the average will at present barely remunerate them for the speculation. In conclusion, we have extracted the following remarks from an intelligent correspondent, who, speaking of his countrymen, who had imported on their own accounts, but who, by the by, form a remarkably small proportion of the number of importers as compared with those encouraged to consign, says—"information of the state of our markets has already gone out that will stop further shipments from your side of the Atlantic, and circumstances may arise that will induce the holders of foreign Wheat, at any additionally material reduction, to take the benefit of the drawback, and re-export it to Europe. *You had better let us starve for Wheat bread than bring in unsound Wheat.*"

CURRENCY PER IMPERIAL MEASURE

	BRITISH.		MAY 1.		JUNE 1:	
	s.	d.	s.	d.	s.	d.
Wheat, red, Essex, Kent, Suffolk	50	56	50	58	50	58
White.....	52	60	52	63	52	63
Norfolk, Lincolnshire and Yorkshire	40	54	40	56	40	56
White, do. do.	46	58	46	60	46	60
Irish Red	—	—	—	—	—	—
Ditto White	—	—	—	—	—	—
Barley, Maltng, new	30	32	27	30	27	30
Chevalier, new	32	34	29	33	32	34
Distilling	30	32	26	30	30	32
Grinding	24	28	25	28	24	28
Irish	24	27	24	27	24	27
Malt, Brown	46	50	38	46	46	50
Ditto, Chevalier	58	60	58	60	58	60
Ditto, Norfolk and Suffolk Pale	54	58	54	57	54	57
Ditto Ware	57	59	55	58	57	59
Peas, Hog and Grey.....	33	36	36	38	33	36
Maple	35	38	35	40	35	40
White Boilers	38	40	38	42	38	42
Beans, small.....	34	44	40	48	34	44
Harrow	36	42	38	45	36	42
Ticks	34	40	36	42	34	40
Mazagan	34	40	36	44	34	40
Oats, ENGLISH feed.....	22	25	25	28	22	25
Short small.....	24	28	28	32	24	28
Poland	25	29	27	32	25	29
Scotch, Common.....	22	27	24	30	22	27
Berwick, &c.	24	29	27	32	24	29
Potatoe, &c.	25	30	27	33	25	30
Irish, Feed	18	23	23	24	18	23
Ditto Potatoe	20	25	24	27	20	25
Ditto Black	18	23	23	25	18	23

PRICES OF FLOUR,

	Per Sack of 280 lbs.		MAY 1.		JUNE 1.	
	s.	d.	s.	d.	s.	d.
Town-made	50	55	48	50	50	55
Norfolk, Suffolk, Kent, and Essex	41	42	39	41	41	42
Sussex and Hampshire	40	41	39	40	40	41
Superfine	42	—	41	—	42	—
Lincolnshire, Yorkshshire, and St. octon.	40	42	38	40	40	42
Northumberland, Berwick, and Scotch.	40	42	38	40	40	42
Irish	41	43	40	42	41	43
Extra	44	—	43	—	44	—

STOCK OF GRAIN, FLOUR AND CLOVER-SEED IN BOND IN THE PORT OF LONDON ON THE 5TH MAY.

Wheat.	Barley.	Oats.	Beans.	Peas.	Flour.	Cloversd.
qrs.	qrs.	qrs.	qrs.	qrs.	cwts.	cwts.
212,989	6,673	66,493	2,171	7,324	23,561	25,347
Rye, 15 qrs						

An Account of the quantity of Foreign Grain and Flour imported into the United Kingdom during the month ending the 5th May 1837; the Quantity on which the Duty has been paid for Home Consumption, and the quantity remaining in Warehouse.

Foreign Grain and Flour.	Quantity imported.	Quantity entered for consumption	Quantity in Warehouse.
	qrs. bush.	qrs. bush.	qrs. bush.
Wheat from British Possessions.....		1265 6	24736 3
Ditto Foreign.....	11997 0	1290 6	462627 0
Barley.....	7360 0	142 3	24208 6
Oats.....	13278 7	27 7	239032 5
Rye.....	3522 1	2405 2	3262 6
Beans.....	4922 5	1359 0	14502 0
Peas.....	12003 1	2405 2	20215 3

	ewts.qrs.lbs.	ewts.qrs.lbs.	ewts.qrs.lbs.
Flour from British Possessions.....	1600 1 24	1996 0 2	6011 1 6
Ditto Foreign.....	12358 2 7	128 2 9	145748 0 6

PRICE OF SEEDS.

MAY 29.

The Cloverseed trade has experienced little alteration; there are purchasers of foreign at market, at the rates noted a fortnight since, but they are not inclined to accede to the advanced terms of holders. Trefoil in request, and rather dearer. Linseed and Rapeseed dull sale. In Caraway, Coriander, and Mustard, no variation. Canary hangs on hand at the previous depression. In Tares little doing and prices nominally unaltered. Linseed Cakes rather cheaper, and in Rape no variation. The arrivals of Cloverseed from abroad have been only 4 casks from Hamburg, and 36 bags from Rotterdam; besides 170 Oil Cakes from Honfleur

POTATOE MARKET.

SOUTHWARK -- WATERSIDE, May 29.—The arrivals of Potatoes throughout the week have continued moderate, comprising only 1,216 tons, of which 236 tons were from Devon, 76 do. Yorkshire, 72 do. Kent and Suffolk, 462 do. Scotch, and 370 do. from Jersey and Guernsey. During the course of the past week the trade assumed an animated appearance, and the supplies proving on a very limited scale, salesmen succeeded in obtaining a still further advance, and the quotations of Yorkshire reds have to-day attained a height of currency, viz. 7l. per ton, which has not been arrived at for the last 20 years. At the improvement, however, the trade rules heavy, the weather having set in remarkably fine and favourable for vegetation still no immediate reduction is expected in the quotations.

Per ton of 40 bushels.

Yorkshire reds...120s to 140s	Norfolk Whites.... —s —s
Do. Kidneys ....100s 110s	Lynn Kidneys —s —s
Do. Shaws, for seed —s —s	Suffolk Whites.... 90s 100s
Devonshire reds...110s 120s	Kent Kidneys —s 110s
Scotch reds.....95s 110s	Irish Runfs..... —s 120s
Do. Minion Cups... —s —s	Jersey & Guern. blues 110s 120s
Wisbeach 90s 95s	Do. whites —s —s
Chats.....	45s 70s.

WOOL MARKETS.

BRITISH.

MAY 29.

The unfavourable accounts, relative to the state of the British Woollen trade, which continue daily to arrive, from our great manufacturing districts, tend much to depress the London trade, which is in a very inanimate state, and, to effect any thing like extensive sales, an abatement of from 1d. to 2d. per lb. must be submitted to. Contrary to expectation, the orders for Woollen

goods, received from the United States, have been very few, whilst the exports thither have been limited.

	MAY 1.				JUNE 1.			
	Per lb.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	
Down Tegs.....	1 7	to 1 7	1 6	to 1 7	1 7	to 1 7	1 7	
Half-bred do.....	1 7	to 1 8	1 7	to 1 7	1 7	to 1 7	1 7	
Ewes and Wethers.....	1 4	to 1 5	1 2	to 1 8	1 2	to 1 8	1 8	
Leicester Hogs.....	1 4	to 1 5	1 4	to 1 5	1 4	to 1 5	1 5	
Do. Wethers.....	1 1	to 1 2	1 1	to 1 2	1 1	to 1 2	1 2	
Blanket Wool.....	0 7	to 1 0	0 6	to 0 11	0 6	to 0 11	0 11	
Flannel.....	1 0	to 1 5	0 11	to 1 3	0 11	to 1 3	1 3	
Skin Combing.....	1 1	to 1 3	0 11	to 1 2	0 11	to 1 2	1 2	

EXETER.—Here all things must be taken as nominal merely, for literally in this trade there is nothing doing, and the distress, from the number of hands out of employ, is daily increasing; indeed, the majority of the concerns in this district have ceased working. This is a melancholy picture, but unfortunately in all its features marked with truth. With respect to yolk wool, it is impossible to quote a price, since in this market there was no one disposed even to name terms by which they would be bound to effect purchase; and consequently in this way nothing was done. Washed wool is from 12d. to 13d., and Dorset horn 14d. per lb. Sorts—Kent head, 10½d. to 11d.; r.d. green, and pinions, 11½d.; fall combing, 10½d. to 12d.; fine head, 12½d. to 13½d.; stripes, North Devon and Cornish, 15d.; and tops, river washed, 18d.; soap washed, 18½d. to 18½d. per lb.

WAKEFIELD, May 26.—This market remains in the same dull state as for several weeks past. The near approach of clip, and the disastrous accounts from America, have destroyed all confidence in the holders of wool, and lower prices have been almost daily submitted to; there is, however, a feeling beginning to manifest itself that prices have seen their lowest, and offers have been made to purchase to some extent at within a shade of what may be quoted as the present value; and should this get to be a prevailing opinion, we may expect to see more doing in all departments of the trade.

PONTEFRAC. —On Monday last, the first of the annual series of wool markets took place at Pontefract. Very little wool was produced, and the demands of the growers were so extravagant as to deter the few buyers present from purchasing.

LIVERPOOL.

WEEK ENDING MAY 29.

ENGLISH WOOL.—Down ewes and wethers, 13d. to 14d.; down tegs, 15d. to 16d.; combing fleece, 14d. to 15d.; combing skin, 12d. to 14d; super skin, 12d. to 13d.; head skin, 10d. to 11d.

SCOTCH WOOL.—We can only repeat this week what we have said for several weeks past, that of actual business in Scotch wools there has been none. The near approach of the clip, with the complete stagnation of business in the manufacturing districts, will we expect cause the present dullness here to continue for some week's longer. Our quotations must now be considered perfectly nominal, for we have no doubt that holders would consent to a considerable reduction to effect sales, but in the absence of positive business we continue them unaltered.

	s. d.	s. d.
Laid Highland Wool, from ..	11 6	to 12 0
White do.	15 0	to 15 6
Laid Crossed do.	14 0	to 15 0
Washed do.	15 0	to 16 0
Laid Cheviot, do.	17 6	to 18 0
Washed do.	22 0	to 24 0
White do.	28 0	to 30 0
Import for the week	96	bags.
Previously this year	2926	do.

Every description of wool continues extremely dull in the market, and the accompanying prices may be considered merely nominal. This inertness is the result of the depressed state of trade in the manufacturing districts. The feeling here is that the clip of wool will be unusually light this year, the result of the present very unfavourable season. The import from New South Wales is expected to be large, this week it has been particularly so, exceeding 2,000 bags. The stocks here continue to increase, which has contributed, as a neces-

sary result, to diminish prices. In Scotch or Irish there has been literally nothing doing.

IRISH WOOL.—Irish fleece, mixed lots, 12d. to 12½d.; Irish wethers, 11½d. to 12½d.; Irish hogs, 12d. to 13d.; Irish combing skin, 11d. to 12d.; Irish short skin, 9d. to 11d. per lb. Imports this week, 20 bags; ditto for the year, 1,378 bags.

FOREIGN WOOL.—Russia wool, 6d. to 7d.; Odessa, fine, 1s. 1d. to 2s.; Buenos Ayres, 3d. to 4d.; Mogadore and Barbary, 3½d. to 4½d.; washed Peruvian, 9d. to 10d.; unwashed ditto, 6d. to 7d.; Portugal R., 11d. to 13d.; ditto, low marks, 9d. to 10d.; German fleeces, 1s. 3d. to 1s. 6d.; ditto assorted, 1s. 6d. to 1s. 9d.; ditto lambs, 1s. 6d. to 2s. 9d.; Spanish R., 1s. 6d. to 1s. 9d.; ditto F. S., 1s. 3d. to 1s. 11d.; New South Wales, 1s. 2d. to 1s. 10d. Imports this week, 2,005 bales; ditto for the year, 13,507 bales.

SCOTCH.

Per Stone of 24 lbs.	MAY 1.			JUNE 1.		
	s.	d.	s. d.	s.	d.	s. d.
Laid Highland Wool, from.	12	0	13 0	11	6	12 0
White Do.	15	0	15 6	15	0	15 6
Laid Crossed Do.	15	0	16 0	14	0	15 0
Washed Do.	16	0	17 0	15	0	16 0
Laid Cheviots.	18	0	20 0	17	6	18 0
Washed Do.	24	0	26 0	22	0	24 0
White Do.	32	0	34 0	28	0	30 0

FOREIGN.

MAY 29.

Our supplies, since Monday last, have consisted of 380 bales of German; 200 do. of Spanish; 390 do. of Turkish; and 145 do. of South American wools. The sale of 400 bags of Spanish wool, for the 5th of June, is the only one at present appointed. Our demand by private contract, is in a very sluggish state, at barely stationary prices.

Electoral Saxony wool, from 4s. 2d. to 5s. 2d.; first Austrian, Bohemian, and other German wools, 3s. to 3s. 10d.; second do., 2s. 4d. to 2s. 10d.; inferior do. in locks and pieces, 2s. to 2s. 4d.; German lamb's do., 2s. 3d. to 3s.; Hungarian sheep's do., 2s. to 3s.; Leonesa sheep's do., 2s. 6d. to 3s.; Segovia do., 2s. to 2s. 8d.; Soria do., 2s. 2d. to 3s.; Caceres do., 2s. 6d. to 3s.; Spanish lamb's do., 1s. 6d. to 2s. 8d.; German and Spanish cross do., 2s. 4d. to 3s. 2d.; Portugal sheep's do., 2s. 2d. to 2s. 8d.; do. lamb's do., 1s. 4d. to 2s. 6d.; Australian, fine crossed do., 2s. 6d. to 3s. 4d.; do. native sheep's do., 1s. 4d. to 2s. 6d.; Van Diemen's Land, 1s. 4d. to 2s. 6d.; and Cape do., 1s. 6d. to 3s. per lb.

CAUTION TO WOOL GROWERS.—The woolen manufacturers of the West of England, having for some years past sustained considerable loss from the deceitful winding of wool—that is, from the too general practice of enclosing in the fleece locks, pelt, tar, dung, straw, grass, &c., have published extracts of the existing statutes for the prevention and punishment of such practice. They have also informed such growers of wool as may hereafter be found in the above practice, that they may expect the enforcement of the legal penalties for so doing.

EXTRACTS FROM THE STATUTES.

“23d Henry VIII. cap. 17.—No person shall wind in any fleece, clay, lead, stones, sand, tails, deceitful locks, cot, or any other thing whereby the fleece may be more weighty, to the deceit and loss of the buyer.”—Sixpence per fleece only was the penalty under the above Statute, but this was found an insufficient preventive, and therefore it was enacted by the 28th Geo. III. cap. 38, “That every person offending as above, shall in lieu of every sixpence, forfeit and pay two shillings for every fleece, and the whole thereof to go to the

finder or prover of the said deceits, to be heard and determined by one magistrate in a summary way.”—The growers of wool learn from the above, that if in any instance the manufacturer should feel an indispotion to prosecute, then any wool assorter, or other person, may come forward and convict any found in offence against such statute. Those who hind their fleeces with cord are subject to the same penalty.

REVIEW OF THE HOP TRADE.

MAY 26, 1837.

During the last three months we have had a depressed trade for Hops, with a uniform cold Spring, attended with severe frosts, even up to the present time; upon the whole, prices have remained unaltered; within the last ten days more business has been done at a trifling advance, particularly in *fine Hops*; of this description, very few are now left on offer.

The district reports state that it is not in the memory of man to have witnessed so cold or backward a Spring, the bine, which in ordinary seasons, should now be flourishing half way up the pole, has not yet been tied, even for the first time. The plant, or show of bine, is also represented as particularly uneven and weakly, with the continued frosty nights this cannot be wondered at, but unless a rapid and favourable change takes place in the weather, the growers will have reason to be alarmed at the position of the plant. It is admitted the bine, when the weather suits the plant, will grow with astonishing rapidity, but if the winter is to follow this tender plant up till midsummer, it is quite evident the produce will be a mere nothing this season. Independent of the serious injury, that little tormenter, *the flea*, does the plant in cold Springs; this insect now shows its ravages to a great extent, and the cold nights prevent the plant from growing out of its way. Should *fly* follow, this is the destroyer, but that cannot come with the cold weather. Showers and warm nights will alone bring that insect, and possibly such weather may start the bine and set it growing so rank and vigorous, that it may defy the fly. This has been the case, but in blights, we have always found the fly come early and catch the plant in weakness, and thus the crop has been destroyed. This was clearly the case in 1823 and 1825. As in ordinary years, the present estimate of duty stands at 150 m. but few backers.

PRESENT PRICES.

	£.	s.	fine	£.	s.
East Kent Pockets (ordinary)	5	0		6	6
Bags	4	10		5	10
Midland Kent Pockets	4	0		6	6
Bags	3	15		5	12
Weald of Kent Pockets	3	15		4	15
Sussex Pockets	3	10		4	10
Yearlings	3	0		3	15
Old	2	2		3	3
Old Olds	1	1		2	2
Estimated duty, May 26, 1837,	150,000.				

BONES.

Since our last there have passed the SOUND, ELSINORE, the GREAT BELT, and the HOLSTEIN CANAL, ships loaded with Bones, bound for Hull, 4; Newcastle, 1; Kirkcaldy, 1; Ipswich, 1; other parts of Scotland, 5; and other parts of England, 5;—with patent mist for England, 2.

END OF VOLUME VI.

INDEX TO THE SIXTH VOLUME.

- Aberdeen Journal, to the Editor of, 452
- Agriculture, 331, 379, 386
- Agriculturists of England, to the, 1
- Agricultural production and population, Ireland, 49
- Agricultural population, condition of, 203
- Agricultural experiment, 308
- Agricultural societies — Market-hill, 3; Bath and West of England, 9; Chelmsford and Essex, 11; Rutland, 22; Taunton, 32; Rye, 69; Chippenham, 70; Chartham, 70; Highland, 96; Rutland, 110; Market-hill, 125; Kent and Canterbury, 129; Perthshire, 136; Herefordshire, 180; East Riding, Yorkshire, 197; Newtownards, 233; Kirkcaldy, 271; East Lothian, 335; Devon, 415; Flintshire, 432; Wharfedale, 434; Highland, 434
- Agricultural distress, 153
- Agricultural reports, 63, 140, 150, 228, 232, 312, 389, 471
- Agricultural wages, rate of, 100
- Agricultural prosperity, 127
- Agricultural Libraries, 154
- Agricultural Intelligence, 73, 157, 234, 316, 397, 477
- Agricultural improvement, 446, 466
- Agricola and the farmers of England, 27
- Agriculture, points in chemistry applied to, 269, 325, 405
- Agricultural committee, 1836, evidence before, 347, 467
- Agriculture, premiums of Highland Society for 1837, 357
- Agriculturists, schools for, 370
- Ale and Sack, a song, 311
- Apple and pear trees, dilapidated state of, 116
- Asparagus, culture of, 176
- Asses' milk, 78
- Assessing paupers, 436
- Bank of England, 203
- Barley, extraordinary crop of, 14
- Bastardy law, 371
- Beams for building, important improvement in, 436
- Beer, ode to, 134
- Bee-hive, new, 259
- Beer, mode of preventing, from becoming acid, 270
- Beet-root, 49
- Beet-root sugar, 100, 258, 359
- Beet-root sugar in Massachusetts, 192
- Black caterpillar, history of, 85
- Boghillie, farm of, 372
- Bog, cultivation of, 195
- Bone manure, 176, 236, 339, 433, 469
- Bones, human, use of, 225
- Black Sea, 187
- Bread, baking by steam, 411
- Building, new method of, 100
- Broccoli, on forcing, 388
- Bristol Mercury, to the Editor of, 311
- Burning the bush, 136
- Cambrian, letter to the Editor of the, 151, 196
- Charcoal for draining, 116
- Carriages, two wheeled, regulations on, 192
- Castration, 422
- Centrifugal water-machine, 311
- Cattle and sheep, various breeds of, 435
- Cautery and setons, 450
- Cheese, curious mode of preserving, 70
- Cabbage tree, 308
- Chippenham market, premiums awarded at, 419
- Chesnut, sugar from the, 366
- Christmas, merry, and happy new year, 48
- Castle Douglas, second show, 310
- Clay, stiff, cultivation of, 348
- Corn laws, 72, 165
- Corn trade, review of, 77, 159, 239, 319, 399, 479
- Corn, state of, in foreign ports, 128
- Corn Exchange, Mark-Lane, 466
- Chickens, extraordinary mode of hatching, 256
- Crime, proportion to population, 12
- Church-rates, Croydon, 257
- Church-rates' bill, 291
- County Newspaper, to Editor of, 430
- Corn crake, 279
- Cricklade, new market at, 185
- Corn laws, Mr. Clay's motion, 300
- Crops, state of, 59
- Cucumber, Allen's treatise on, 369
- Currency, 14, 360, 439
- Devides Gazette, to the Editor of, 155
- Drag, Makepeace's improved patent, 16
- Drag, patent on improved, 49
- Drilling and broadcast, relative advantages of, 107
- Elis, plate, 197
- Endless ladder, 440
- Fallowing, practice of, explained on scientific principles, 459
- Ferret, the, 297
- Fare, old English, 48
- Faringdon, 180
- Farm servants, combination of, in East Lothian, 269
- Farm at Christmas, 138
- Faimer's Magazine, letter to the Editor of, 92, 153, 154, 373
- Farmer, Irish, reminiscence of, 414
- Farmers 300 years ago, 375
- Farmers, useful hints to, 384
- Farms, manure of, 411
- Farms, small, on the management of, 436
- Farms, experimental, 329
- Fat cattle, 225
- Feeding, experiments on, 412
- Flax-growers, important to, 455
- Flax, on the culture and treatment of, 365, 368
- Flax-seed, feeding cattle upon, 260
- Fruit-trees, frost upon, 357
- Grafting, expediency and effects of, 354
- Grain and flour imported into Liverpool in last 20 years, 61
- Grain, comparison of imports into Liverpool, in 1835 and 1836, 62
- Grain, proportionate freight table, 469
- Green crop system, 367, 419
- Greyhound, plate, 357
- Grass-land, on converting into arable and relaying down, 91
- Grass-land, economical method of improving in Scotland, 424
- Grass valuable, 378
- Great Britain and Ireland, 152
- Hack, plate, 16
- Hares, the two, 173
- Herculean feat, 308
- Harvest, estimate of, 54, 58
- Heath, improvement of, 411
- Heifer, abscess in thigh of, 179
- Hedge-birds destructive to crops, 207, 261
- Hillyard's practical farming, 247
- Hides, duty on, 70
- Highland poor, 398
- Hop trade, review of, 81, 244, 323, 484
- Hops, cultivation of, 91
- Hornsea, plate, 173
- Horses, number in England and Wales, 28
- Horse, curious, 12
- Horses, epidemic among, 101, 181
- Horses, management of, 117
- Horses, on soundness and unsoundness in, 283
- Horses, on the principles and practice of shoeing, 341
- Horses, on the past and present state of, 349
- Horses, racing, in Hindostan, 434
- Horses, imperial establishment for breeding in Austria, 445
- Horticulture, 93
- Horticultural society, 48
- Hunters, management of, 17
- Hunter, oh! rest thee my, 124
- Hunter, condition of, wintering, 294

INDEX TO THE SIXTH VOLUME.

- Ireland, question of superabundant population considered, 451
 Irrigation and draining, 338
 Islington cattle market, 8
 Islington market *v.* Smithfield, 339
 Italian rye-grass, 299
 Lambs, paralysis in, 441
 Land, proposal for estimating rent of, by average price of wheat, 16
 Land, rent of, 180
 Landed and trading interests, letter to, 132
 Larch, diseases of, 428
 Landlords, important to, 237
 Landlord and tenant, 308
 Leases, 409
 Lessees of ecclesiastical lands and church-rates, 340
 Loan fund, Charlbury, 115
 Malt, quantity consumed by London brewers, in year ending Oct. 10, 1836, 26
 Mangle Wurzel, 348, 369, 377, 449
 Mangle Wurzel, system of cultivating, in East Lothian, 225
 Maltsters, important to, 153
 Manures, on, 385, 443
 Manure, nature and application of, 447
 Manure, farm-yard, 347
 Manure, new, 364
 Mark-Lane Express, to the Editor of, 191
 Mark-Lane Express, to the Editor of, by S. Gill, 202, 237, 361
 Milburn, Mr., reply to, 13, 274
 Milburn's, Mr., reply to Mr. Gill, 256
 Monetary system, 280
 Moor-ill, 26
 Myrtle, gigantic size in Van Dieman's Land, 260
 Noupareil, plate, 437
 Northumberland drovers in 1792, 340
 Norwegian farmers, 419
 Paper money and high prices, 177
 Paris statistics, 238
 Pig, remarkable, 70
 Phosphoric acid — bone manure, 428
 Plough, steam, 237, 409
 Plough, Armagh and Sussex, 330, 334, 440
 Plough, Scotch, 363
 Ploughing on clay soils, 2
 Ploughing, subsoil, 14, 131, 255
 Ploughing matches, 177, 212
 Ploughing and draining, 210
 Ploughing-match at Hailsham, 281
 Pneumonia, 128
 Population, 116
 Poisoned valley of Java, 259
 Poor law report, 98
 Poor law, abuse of, 238
 Poor law commissioners report to, 112
 Poor law, Ireland, 167, 213, 250
 Poor law, new, 188, 201, 225, 259, 298, 370
 Poor laws, Mr. Gally Knight upon the, 362
 Pork trade at Cincinnati, 433
 Pork establishment of Mexico, 445
 Potatoes, on planting, 201
 Potato, 205, 346
 Potato Market, 244, 323
 Potato crop, failure of, 248, 429, 464
 Potato crop in Scotland, 432
 Potato, the cup, 299
 Puzzle for the curious, 361
 Pyrenean shepherds, 366
 Railways, triumph of, 153
 Rain in October and November, 72
 Rat, musk, 131
 Reaping machine, 131
 Rents, postponement of, 49
 Rents, high for poor land, 258
 Rheumatism, simple cure for, 48
 Rumination, process of, 38
 Rural police, 138, 238
 Scotland, commerce of, in 1656 and 1835, 212
 Scotland, statistical account of, 380
 Settlement, law of, 179
 Seeds and roots, on the classification and purification of, 380
 Seeds, price of, 323
 Shaw Lefevre's pamphlet, letter in answer to, 29
 Sheep, consultation respecting, 358
 Sheep, apthæ in, 370
 Short-horned cattle, sale of, 385
 Short-horned cattle, on crossing with other breeds, 285
 Squirrels, 385
 Sheet Anchor, a stallion, description of, 277
 Shooting dog, 310
 Smithfield for ever, 276
 Smithfield show, 46
 Snow, on clearing roads of, 138
 Song of the month, 311
 Soil, burnt, mode of preparing for manure, 114
 Spade husbandry, 298
 Stall-feeding, 99
 Statistics, upon, 260
 Stud, Marquis of Waterford's, 420
 Stock, sale of, at Firby, 427
 Sussex Advertiser, letters to the Editor of, 47, 48, 131
 Tape-worm in the pointer and spaniel, 278
 Temperance societies, 189
 Tenure, curious, 270
 Threshing machines, 154
 Threshing machines, improvement in, 372
 Tic douloureux, cure for, 49
 Tithes, commutation of, 25, 268
 Tithes, commutation meetings, 133, 199, 200
 Tithes, commutation Act, operation of, 51, 71, 132, 153, 155, 299, 328, 422
 Tithes, origin of, in England, 260
 Tithes on hops, 420
 Timber trees, planting of, 371
 Timber duties, 175
 Timber, 179
 Tobacco and sleep, 129
 Tour in Holstein, extracts from, 453
 Trees, size of, 50
 Turf intelligence, 83
 Turnip crop, failure of, S. P. G.'s theory, 50
 Turnip crop failure, by Mr. Milburn, 135
 Turnip, Swedish, 71, 130, 333
 Turnip fly, prevention against, 115
 Turnip fly, 124, 130, 139, 260, 340, 420
 Turnip cabbage, 178, 282
 Turnip, on culture of, to C. Hill-yard, Esq., 267
 Turnpike trusts and tolls, 173
 Turnpike-roads, 275
 Vegetable manure, 431
 Vetches, cultivation of, 137
 Veterinarian, extract from, 193
 Unions—Holborn, 176; Thingoe, 180; Strand, 186; Plomesgate, 201; Hoxne, 273
 Wallflowers, 435
 Waste land, improvement of, 97
 Weather, severity of, 384
 Western Australian report, 334
 Weeding, necessity of, 257
 Wheat, Smoothery's, or Boishall's new red, 15
 Wheat, flour, and bread, 70
 Wheat, weekly averages, during 1836, 152
 Wheat, tabular view of crops of, from 1815 to 1835, 421
 Wheat, breadth of, in ground, 468
 Wheat, on manure for, 309
 Willow, value of, 298
 Woollen trade, review of, 76, 158
 Wool market, Devizes, 174
 Wool markets, 243, 323, 403
 Working classes, hints to, 27



