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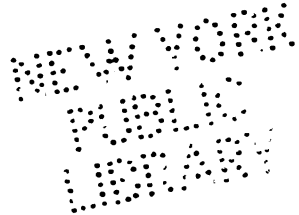


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VOLUME THE SIXTEENTH.

(THIRD SERIES.)

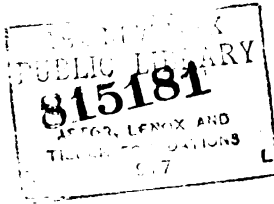


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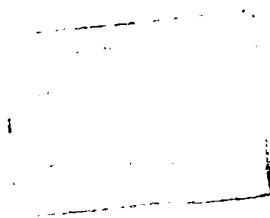
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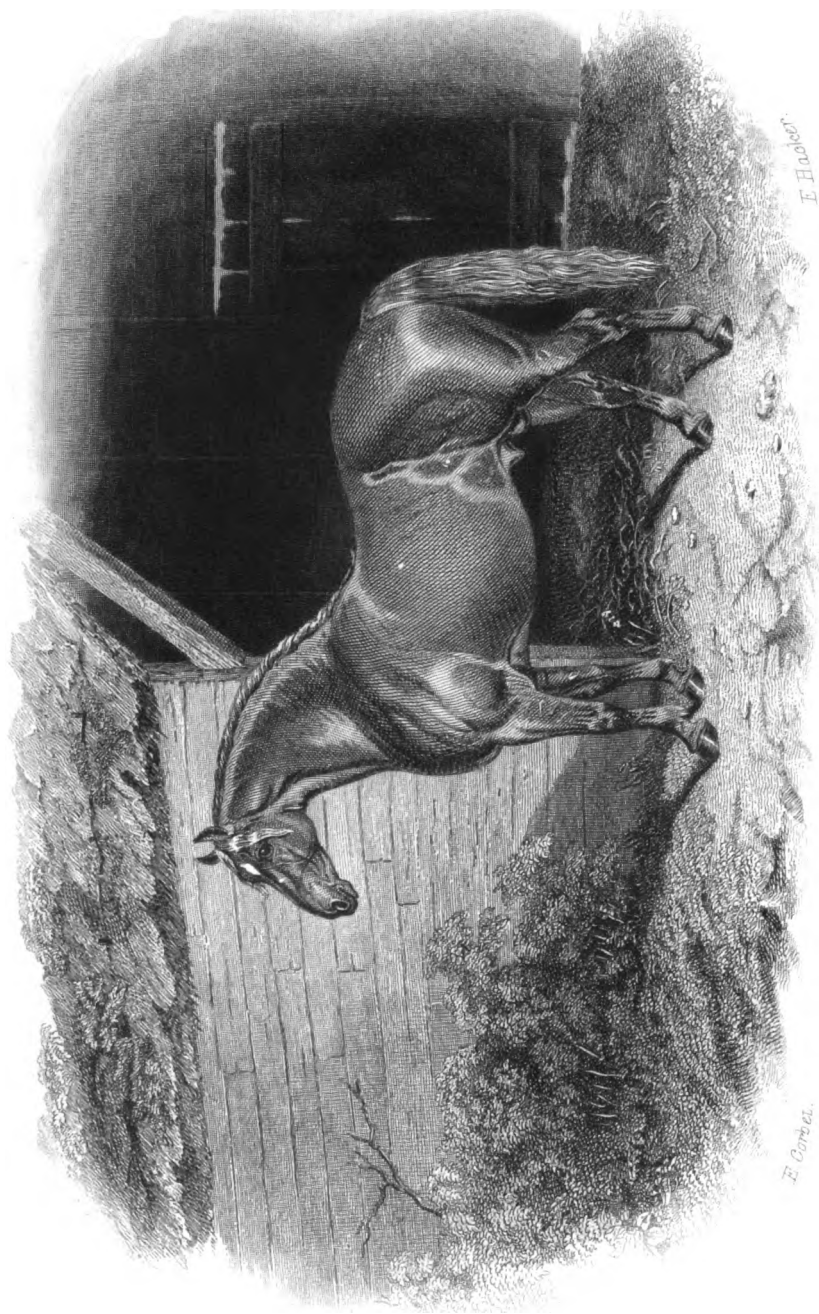
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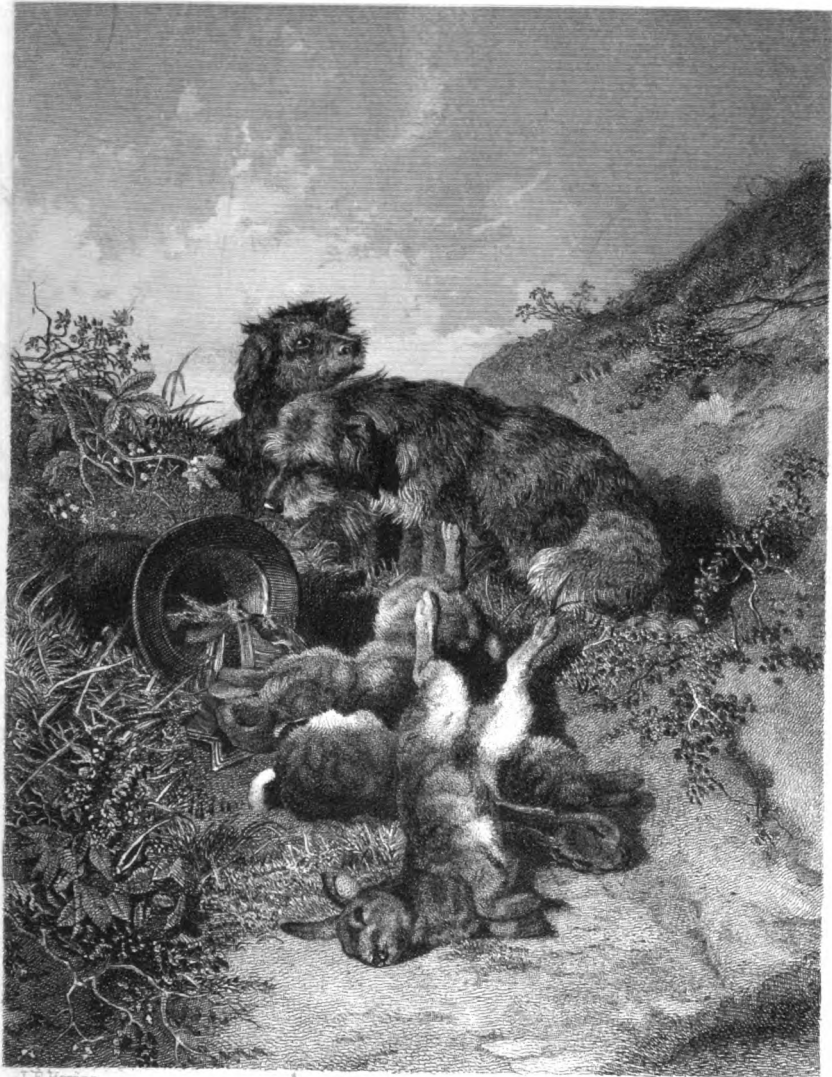
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The Competition?

At the request of the Committee of the Society of English Breeders, a competition was held at the Crystal Palace, London, in 1862, for the purpose of determining the superiority of the English and Foreign breeds of horses.

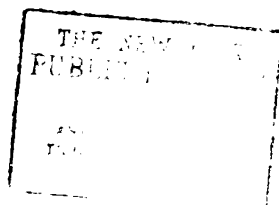
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J. F. Herring

L. H. H. H.

The Dog and His Puppies



THE FARMER'S MAGAZINE.

JULY, 1859.

PLATE I.

THE EMPEROR; A SUFFOLK STALLION,

THE PROPERTY OF G. D. BADHAM, ESQ., OF BULMER, ESSEX.

The Emperor, or "Chester Emperor," as he is now called by way of distinction, was bred by Mr. Badham in 1854. He was got by Newcastle Captain, out of Moggy, by Mr. Catlin's first horse, of the famous "Artis" strain of blood, her dam by Lord Rivers' horse.

Newcastle Captain, one of the most justly celebrated of all the Suffolks, was bred by, and long in the possession of, Mr. N. G. Barthropp, of Cretingham. After leaving, however, his mark in his own country, he was sold to the Reverend H. Beever, of Cowbridge, Glamorganshire, who is introducing the sort into the Principality. Although now some sixteen or seventeen years old, the Captain is reputed to be as lively and as fresh as ever.

Moggy, the dam of Emperor, was long a favourite of Mr. Badham's, and the first brood mare he purchased when he commenced farming in Suffolk.

Emperor entered public life at a very early age, having been shown as a foal at the Norwich Meeting in June, 1854, when he was awarded the first prize of 4 sovereigns. He was, however, so ill at the time with influenza, that he could scarcely stand. Nevertheless, he went in the month following to the Saxmundham show of the Suffolk Society, where, looking still very wretched, he was not noticed. He afterwards visited Lincoln with no better success.

Having so lost the summer, Emperor was fed highly during the following winter, and brought quite round again. But in the July of 1855 he knocked himself about terribly when undergoing the operation of shoeing for the first time. In this

battered condition he was exhibited at the Ipswich Meeting of the Suffolk Society the week following, when he was still highly commended, as well as winning a sweepstakes against a colt, which subsequently took the first prize of his class at the Royal Agricultural Society's Meeting at Chelmsford.

In 1856 Emperor was again exhibited at Norwich, but without notice; neither was he more in favour at the Stowmarket Meeting of his native county. At the "Royal" Show, however, at Chelmsford, he took the second premium of 10 sovereigns for two-year-olds, being only beaten by Mr. Sexton's colt, which Emperor had beaten the previous year for the sweepstakes at Ipswich. This was allowed to be one of the largest and best classes of young horses ever seen.

Emperor was now taken off his hitherto liberal supply of corn, and, until the March of the following year, was fed upon cut clover, hay, and straw, with half-a-bushel a day of mangel-wurzel, and about a peck and a half of bran. In the April of 1857 he began travelling in Suffolk, and about ninety mares were put to him, only four or five of which missed. He was entered this year again at Ipswich, where his real form began to show itself. Although only three years old, he took the second prize of five sovereigns, in the all-aged class of stallions, despite there being three or four "Royal" winners parading the Ring; and he then carried off the first prize of six sovereigns, as the best of his own proper order—the three-year-old colts.

Emperor after this again wintered on very moderate rations. Early in 1858 he was let to a gentleman in Surrey; but soon after the horse was

sent there, the Essex Society was established, and Mr. Badham having by this returned to the county, was anxious to support the opening meeting. His friend was kind enough to take another horse in his place, and Emperor once more appeared at Chelmsford, where he took the first prize of 15 sovereigns, as the best cart stallion travelling in the county; and the All-England open premium of 25 sovereigns, as the best horse from anywhere. In the same week, he took the first prize for stallions at the Norwich Meeting; but a little later on was entirely passed over by the judges at Bury St. Edmunds. This mistake, however, was signally corrected at the Chester Meeting of the Royal Agricultural Society, where he took the first prize of 30 sovereigns in the class of agricultural stallions, against a very good entry. He was beaten for the special premium, for which former first prize winners were admitted, by the famous Shire horses Nonpareil and Matchless: but it is only fair to say that Emperor was but four years old, and the others just double his age. He has furnished considerably since then, as we can answer for, having had the pleasure of again looking him over at the Colchester Meeting of the Essex Society, where

he repeated his last year's performance, taking the first prize of 15 sovereigns in the County class, and the All-England premium of 25 sovereigns. He now goes on to Ipswich for similar honours; a special prize of 30 sovereigns, for all comers, being expected to bring some very strong competition.

The Emperor is a red chesnut horse, with a few grey hairs shot here and there through his coat. He stands something over sixteen hands high. He has the most beautiful blood-like head perhaps ever seen on a horse intended for "agricultural purposes." He has a strong neck and fine crest, good oblique muscular shoulders, deep girth, and first-rate loins and quarters. His hocks and arms are also excellent; and he has a small but good foot. He stands short on the leg; and this, with his fine quarter, makes him a very lengthy-looking horse, but still with a short powerful back. Emperor is, altogether, one of the most handsome and symmetrical cart-horses ever seen, possessing in perfection those three leading "points"—great strength, fine quality, and capital action.

Emperor has this year been serving a great many mares in Suffolk; and his stock is already highly spoken of.

PLATE II.

THE WARREN HILL.

The subject of our plate is becoming rather a momentous question just now. The gamekeeper and his perquisites have had to stand up against a good deal of hard hitting, and the rabbits, most probably, will have to endure even more yet. Indeed, every man's hand is against them; and as the law goes far to countenance this, we may expect to see them gradually thinned out. A plague of rabbits in a well cultivated district is, no doubt, a terrible nuisance, while

there is really little in the way of sport to be argued for its countenance. So long as there are enough to feed the house and the foxes, the keepers had better be kept to their own proper business of rearing pheasants, and not to making a market at their neighbours' expense. In a range of rough country, however, like the Warren Hill, a morning's rabbit shooting and ferreting is a very agreeable occupation, and our illustration, accordingly, quite "in order."

THE HERDS OF GREAT BRITAIN.

CHAPTER VIII.

MR. BOLDEN'S HERD.

Lancaster, both to the historic and the Shorthorn mind, is essentially a land of Dukes. The former loves to contemplate that bold eminence, crowned by the Lungess Tower and the grey bastions of that castle which Roger de Poitou built, and where John o' Gaunt owed to dwell in the perilous strife of the Roses; and the

latter thinks, in a less martial mood, of the two mighty Grand Dukes, which dwelt beneath its shade, and then crossed the Atlantic, each with a thousand guineas on his head, to join their fair Ducie and Towneley mates on the banks of the Hudson river. These modern Dukes of Lancaster held their state either at Springfield Hall, which has forty acres of pasture land round it, on the southern outskirts of the town, or at the Red Bank Farm which is four miles to the north, on the desolate

beach of Morecambe Bay. The two places form the summer and winter residence of Mr. Bolden's herd, which numbers about fifty head; and as we visited it in the latter season, we found at least forty at the farm, whither they had duly migrated, to consume the hay, straw, and root-crops on the spot where they are grown. Natty as the arrangements are throughout, the coolness and comfort of the shippon at Springfield chiefly caught our eye. The whole of it, with the exception of the yard of Third Grand Duke, is under one roof, with the calf boxes at each end; and the cows stand *vis à vis*, with a gangway, from which they are fed, of six feet wide between them. Wood and glass find no place here. Open iron-work separates the gangway and the stalls; the partitions between the latter are large slabs of blue slate; and the ventilation comes not only from the roof, but through the minutely perforated zinc windows, which do not admit of a draught sufficient to blow out a candle.

Mr. Bolden inherited his taste for Shorthorns from his father, who, along with Mr. John Colling of Whitehouse, and Mr. Lax of Ravensworth, caught his inspiration from the Brothers Colling, and died in 1855, at Hyning, near Lancaster. No man was fuller of Shorthorn lore, intermixed with the quaint sayings and the doings of the old Durham and Yorkshire worthies. He kept a herd for many years, always sticking to the old-fashioned roomy heavy-fleshed cows; and hired Leonidas, Leander, and Royal Buck, and other bulls, from the Booths, in days when a man who gave only sixty guineas for a season was considered quite an intrepid character, and when Warlabby females could be had for money.

Four of these now "Veiled Prophetesses," Fame, Rachel, Bridget, and Vivacity, were purchased by Mr. Bolden soon after he commenced breeding, in 1849; and along with cows of the Duchess, Cambridge Rose, and Waterloo tribes, from Kirkleavington; the Cherry tribe from Col. Cradock, and the descendants of No. 25 at the Chilton sale, gradually formed the present beautiful herd, all of which, with the exception of Waterloo 12th and 13th, were bred by their owner. No herd has made greater strides towards perfection, and it is a remarkably encouraging instance to prove that if a man begins with good sorts, and gives his judgment full scope in selecting crosses, he may even in ten years place himself in the front rank. The whole herd is in breeding condition, and this fertility seems due both to his preferring a state of nature, to "the red, white, and blue" ribbons of the show-yard, and the free use of Duchess bulls.

The late Mr. Bates, when he published the portrait of the Duke of Northumberland in 1839, did not fail to improve the opportunity by giving an abstract from the title-deeds of this tribe. Through that document we trace them back to 1784, when Charles Collings purchased from the agent of the Duke of Northumberland that original cow, whose ancestors had for two centuries peacefully cropped the Stanwick herbage, or been driven off by the mailed mossrooper in many a border foray. Hence it was that he reclinkened the cow *Duchess*

"after that family, because they are justly entitled to be held in commemoration for having possessed a *tribe* of cattle, which Mr. Charles Colling assured me was the *best he ever had or ever saw*, and that he was never able to improve upon *her*, although put to his best bulls." There is quite a Hebrew grandeur in the pastoral simplicity of the old Kirkleavington enthusiast, as he spurns the nine hundred armorial ensigns of the blood royal of England and the chivalry of France, commingled in the Percy banner; and calmly paints in the old red and white cow grazing, instead of the lion rampant, on their proud baronial shield.

Still, write as he might about their glories, his deep partiality for them had nearly been their ruin, and although they had been in his hands for five-and-forty years, they were reduced to a very low ebb when he died. Duchess 64th, the dam of Second Grand Duke, he did not live to see, and she was the youngest of the eight which stood up before Mr. Strafford in the memorable sale ring, close by the little church-yard, where, when we last heard, not even a stone is sacred to its memory. Her dam, Duchess 55th, has been a very Barbelles in the herd world, as three of her produce were sold for 2,300 guineas, and she was both the dam and the grandam of a thousand-guinea bull. Mr. Bolden bought the first of the Kirkleavington eight in Duchess 51st, dam of the Fourth Duke of York, for whom Lord Ducie gave 200 guineas at the same sale, and sold after three years' use to the Americans for 500 guineas. The saltwater was fatal to him, as he broke his neck in a storm; but the change from the banks of the stately Tees to "the gently curving lines of creamy spray," that wash the Red Bank Farm, redeemed his dam from the curse of barrenness, which had sunk her to 60 gs.

She bred three heifer-calves, the first of which, by Leonidas, died in the birth, and the others were ushered into the yard at Springfield for us, in the shape of two roan cows, Grand Duchess and Grand Duchess 2nd, by Grand Duke. A noble pair they were, and as Earl Ducie used to say of Duchess 55th, and one or two other of his favourites, "You might stop and smoke a cigar over them." The eldest is a beautiful specimen of a "Bates toucher," silky hair on a stout elastic hide, with that peculiarly dainty cellular tissue between the hide and flesh. The head, too, has all the most favourite characteristics of the tribe, slightly dished in the forehead, with a prominent nostril, and a great general sweetness of expression. And what is still better, they are well down in the twist, and are great milkers, combined with heavy flesh—qualities which we too rarely meet with now-a-days. Her first bull-calf was accidentally killed; but there are two heifers from her, one of them Grand Duchess 4th, a neat roan of twenty months, in calf to Grand Duke 3rd, and a red Grand Duchess 7th, of about five months old. Grand Duchess 2nd bears a strong family likeness to her sister, but she has more substance and gaiety of carriage; and she held up her head, as if right conscious of her lineage. She is little more than five years old, but she has had three heifer calves, Grand Duchess 3rd, 5th, 8th, and Third Grand Duke. The former of these two has a very good roan

heifer by Prince Imperial, with the same gentleness of eye and mellowness of touch that pervade the whole tribe, which already numbers eight females and one male in Mr. Bolden's hands.

Three of the heifers are red with a few patches of white, and it is curious to notice in their marks the exact resemblance to that original Duchess, from whom thrice 183 gs. would hardly have separated Mr. Bates at the Ketton sale. Coates's Herd Book has preserved to us her picture, as she feeds on the Tyne-side, with Halton Castle in the distance. The white patch on the flanks and crop, the star on the forehead, and the gay little beauty-spot just above the muzzle, ran all there; and with the exception of Duchess 3rd, who is enrolled in the Sibylline leaves of Shorthorn fate as "a light grey," there was no break in the "red and white succession till Duchess 19th was crossed with Belvidere of the "White Bull," or Princess family, and two roan heifers were the produce. A double cross of Belvidere brought the colour to white for the first time in Duchess 50th from Duchess 38th, by the Duke of Northumberland, from the first roan, Duchess 33rd.

Cambridge Rose 5th, by Second Cleveland Lad, was five years old at the Kirkleavington sale, when Mr. Bolden senior bought her, and with the exception of Cambridge Rose 6th, who is still kept as a Shorthorn memento at Cobham, and Cambridge Rose 7th, who was purchased by Mr. Downes, and from him by Mr. Bolden for 70 gs., the next autumn, there were then no more descendants in the land of the celebrated Hustler's Red Rose. Cobham proved the value of this blood by the biddings for the gay old cow, and her Marmaduke calf, Moss Rose, for whom three hundred guineas has twice since been refused. In Mr. Combe's hands, she bred four bulls and three heifers; and there is every hope that the iron mineral waters, which Belle has met with in her new home, will make her blossom like a rose once more. The First and Second Dukes of Cambridge alone represent Cambridge Rose 7th, and as she persisted in breeding nothing but bulls, the tribe was lost to Springfield at her death.

When Mr. Bolden had got home the old Duchess 51st, and compared her with some other very good Shorthorns on his farm, he became so convinced of the goodness of the Bates blood, that he determined to make his stand on it. His first move was to purchase Grand Duke (10284), by Second Cleveland Lad from Duchess 55th, for 205 gs., the same price that Mr. Hay of Shethin, Aberdeenshire, gave for him at Kirkleavington. At the time he bought him, he and his father had several cows almost useless, after having been served repeatedly by idle bulls; but with him and successive Duchess bulls, the fertility (which Mr. Bates attributed, in the case of the Duchesses, to the cross with Belvidere) gradually returned. The same was observable in other herds where Duchess bulls were introduced, and Earl Ducie did not conceal his opinion that his was saved by the use of them. Grand Duke was four years old when he came, and he departed for America two years after; and whether in addition to the Dukes of Cambridge we look at May Duke and Grand Turk (the sire of Great

Mogul), from Booth cows; and two Cherry Dukes from the Cherry tribe, all of which have been sold and resold at high figures, Mr. Bolden stands as a bull-breeder second to none.

Grand Duke 2nd, by fourth Duke of York, from Duchess 64th, who was calved at Mr. Bolden's, had rather more white on him than Grand Duke, and was only two years old when he followed him, in November 1855, to the New World. He had not quite the bold look of Grand Duke, and although it would seem to be the perfection of a Shorthorn to read good nature in his face, the Americans always thought that he looked rather too placid. Unlike the gentleman who described himself as having been absolutely unable to close his eyes from emotion, the live-long night after his unexpected "Vision of Fair Women," in the shape of Queen Mab, Nectarine Blossom, and Queen of the May, a recent visitor to Thorndale does not seem to have been the least stirred up by treading such classic soil, or much struck with anything beyond Grand Turk weighing 2,800lbs. He tells us, however, how he found him in company with Second Grand Duke and Neptune of the Booth blood; and how he calculates that Duchess 64th and 66th, Oxford 5th, 6th, and 13th, and Bloom, Frederica, Lalla Rookh, Buttercup 2nd, Miss Butterfly, and Pearllette would be alongside them. Such an American Congress would be worth all the sea-sickness and all the expense to see. Duchess 64th (600 gs.), who was generally considered the best of the eight Duchesses that were sold at Tortworth, died a short time since, along with Duchess 59th (350 gs.); and Duchess 66th (700 gs.), that "brand plucked from the fire" (as Earl Ducie termed her, when the news was carried to his dressing-room one morning that a calf had at last been found in Duchess 55th) was among the fifty head whom Mr. Thorne purchased after poor Mr. Becar's death for £7,000. She has bred remarkably well, and had a calf this year to Duke of Glos'ter, who has been resold, though not for 650 gs. Mr. Alexander's herd, who first opened the American market by his purchases from Col. Towneley, has his pasture lands in Kentucky, eight hundred miles from Thorndale. Mr. Sheldon also began last year, with a new herd at Geneva in the State of New York, and has bought Duchess 71st, and a daughter of Duchess 64th, as well as some Oxfords; while Babraham has furnished him with a bull.

Before leaving Springfield, we had a look at Third Grand Duke by the Second Duke of Bolton (who was from Florence, a daughter of Booth's Fame), and a striking example of the combination of the two royal lines. Second Duke of Bolton got so heavy at four years old, when he stood nearly 120 stone on the machine, that he was sold to the butcher, and his son took his place. He is a particularly handsome bull, well filled up over the steaks, and as even as a horse throughout. The great thickness through the heart is another of his points, and to this we must add very well laid shoulders. With all its gentleness, there is a particular dignity about his forehead, which so many modern bulls of high breeding renown have lost, and a touch must be dead or saucy indeed that does not own him mellow. His fee is

fifteen guineas, and the Duke of Devonshire's Oxford 15th and her daughter are among his fair visitors, while Leila is duly expected.

When his box was closed, we soon changed the venue, with a bitter north-easter in our face, to the farm at Red Bank. It is only twelve years since Mr. Bolden began farming here, and six or seven stacks with a dozen head of cattle then formed the principal "rolling stock." Time, that gentle innovator, has worked wonders for the soil. The traveller from cannie Aberdeen or merrie Carlisle feels sure that there is still corn in Egypt, as he glances to his right at a platoon of forty stacks thick, and the century of acres yield hay, turnips, and mangolds as well, to supply the whole of the present herd. All the winds that blow seem to form a coalition on that promontory; but still the Shorthorn thrives in all its native hardihood, and the calf-houses never lack their goodly little company. The mist jealously shrouded Langdale Pike, and the other Lake Hills; but still, Wharfedale Crag made up a bold grey back-ground, when Prince Imperial came on to parade, by the side of the bay, where the Americans first saw Grand Duke. As he was led along, we thought how an imaginative mythological spirit would have fallen back on the belief of his school-boy days, and pictured to himself, in that massive roan son of Bride Cake, another moody Jupiter waiting for Europa by the lone sea-shore.

He is by Second Grand Duke; and although it so often happens that the first cross is too strong, he has well united the Booth substance and the Bates' touch. Mr. Bolden is putting him on Bates' cows again, and, to judge from the calves, with good success. His grandam Bridget was, along with Rachel and Vivacity, the last cows Mr. Richard Booth ever sold. Bridget came in calf to Crown Prince of Bridecake; and Britannia (who was sold as a calf to Mr. Ambler) and Blissful, both of them by Grand Duke, were her other calves after leaving Warlaby. Bridecake is dead; but her daughter, the White Bride by 2nd Duke of Bolton, an 18 months' heifer, was sold with another out of Blissful, the very day we were at Springfield, for 600 gs.; and Blissful was there still with a roan calf, Bashful by Prince Imperial. Rachel—who, like her two companions, was believed to be barren—had only two calves: to wit, Grand Turk by Grand Duke, who departed from Springfield as a calf, and was resold at Mr. Ambler's sale for 300 guineas; and Rachel 2nd by Duke of Bolton, who went to America at eighteen months for 350 guineas. Vivacity also produced May-duke, to Grand Duke, under the influence of the salt-water cure; but she bled to death in calving, and three bottles of port wine were poured down her in vain.

We found the footsteps of Fame, the ten-year-old senior of these whilom Warlaby emigrants, in the Fenella family. The old cow, who was own sister to Faith, the dam of Hope and grandam of Charity, was purchased by Mr. Bolden from Mr. Henry Watson, of Walkeringham, with her calf Fay by at her foot. She only bred bull calves at Springfield; but Fay had two heifer calves to Grand Duke, and the first was

christened Fenella. She went to America as a yearling, with Grist by the same bull; and they proved the pioneers for him, as Mr. Thorne chanced to see the pair when they landed at New York, on their way to Mr. Alexander's, and made up his mind at a glance that the sire of such daughters must be got at any price. The speculation was not fortunate in his case, as his over-activity was his ruin, and he proved to be hopelessly injured after getting seven calves. Fenella 2nd is still here in the shape of a fine roomy cow; and Fenella III., by Prince Imperial, is full of promise for her twelve months.

It was to Mussulman out of Col. Cradock's old Cherry that Mr. Booth went for the celebrated cross for Bracelet, which produced Buckingham; and the bull himself was purchased for 150 guineas by Mr. Bolden's brother, and taken to Australia. The price was high for the period; but he was a fine-fleshed animal, with great muscular development, and one cross wrought wonders with the native cattle. The original Cherry was purchased by Mr. Unthank, of Netherlands, at the close of 1842 for £26. Col. Cradock fancied that she had ceased to breed, and she was tied up to fat for the butcher, when Mr. Unthank determined to chance it. The transition from Yorkshire to "Cannie Cumberland," brought about a new state of things, and in 1844-5, she calved Wonder (7730), and Queen of Trumps to the renowned Captain Shaftoe. These were her last; and she was slaughtered in 1847, when she had reached the ripe age of nineteen. Mr. Bolden took a liking to the sort, and accordingly purchased a Cherry cow at Mr. Lax's sale. She was small, from so much breeding in; but the cross with Grand Duke restored the fine Cherry character, combined with capital quality and gaiety of appearance in Cherry Duchess, who is an especially neat cow, with heavy flesh, and the most beautiful racer-like bone below the knee. We saw her under peculiarly favourable circumstances, as one of the old sort, with thin shoulders and staring hips, was turned out at that moment from an adjacent shed, where she acts at once as nurse and "frightful example." Her son, Second Cherry Duke, was purchased last year by Mr. Shepherd for 205 gs. (the same price his grandfather gave and received for Grand Duke), and got the first Highland Society prize for two-year-old bulls.

Next to her we noticed Waterloo 17th and 18th, who were brought out together, both of them by Second Grand Duke, and full of Duchess character; but perhaps we were most struck with the hind quarters of the latter. This was a tribe on which Mr. Bates set great store, and he would never say from whom he obtained them. He thus spoke of them in a letter, dated 1841, which he addressed to Mr. Bolden's brother in Australia, to whom he had sold some cattle. After advising him to put them to a Waterloo bull, which he had recently shipped, he proceeds: "The dam and grandam of the above were both by Waterloo bulls, and the blood was good for many generations previously; though I only asked as to the dam, when I bought the first Waterloo cow, ten years ago." There were three more Cherries,

and several other promising young Waterloo heifers, but a Waterloo Meeting on the plains of Alctear was looming in the distance for us, and we could not dwell.

One more tribe remained, going back to No. 25 at the Chilton sale, whose portrait, along with Clarion, was given in the Cattle volume of the Diffusion of Useful Knowledge Society, to show what a shorthorn should be. Among them were the neat roomy Garcia, a twin sister to Gris!—and two good heifers from her; while Mario and Lablache—who were sold, one at 70 guineas and the other at 100 guineas at six months, keep up the musical honours of the line elsewhere.

CHAPTER IX.

LORD FEVERSHAM'S HERD.

The sale of the Aldborough herd had become a thing of the past; its three Roses had departed to bloom in Carnarvonshire and Chippenham Park, leaving their little kinsman, the Earl of Aberdeen, with the King Arthur calf, as the germs of a herd to come; but ere we sped from Darlington to pay suit and service to Sir James and his fair Roses of the East Lothian, we partly anticipated our summer visit to Yorkshire, by harking back some thirty miles, to have a look at the Fifth Duke of Oxford, and the herd of which he is the far-famed centre, at Duncombe Park. The train was full of Shorthorn men, homeward bound it is true, but each with some mission or other on the road. Some got out at Northallerton, to have a "quiet morning at Warlaby;" others dropped on to Mr. Anthony Maynard, at Harlsey; another couple wanted to see the Sixth Duke of Oxford, and the bevy of Duchesses at Captain Gunter's; and hence, when we changed carriages at Thirsk for the Malton line, and heard "*Helmley Station!*" shouted at last, in the unshackled Doric of the district, we had only one companion left. The scenery of the country is a striking combination of wildness and fertility. The Trafalgar Column, which the late lord reared to the hero of immortal memory, is the portal to the park, which extends along a richly-wooded plateau; while at your feet there seems to be a vast plain in every stage of the four-crop rotation for miles, and then fading away in the far distance into some heather forelands, which almost shut out the view of the German Ocean. This Kirby Moor was at once the hunting ground and the death scene of the Duke of Buckingham, in days when the rafters of Helmley Castle rang again with his revels, after he had retired from the court and cabinet of Charles the Second; and its fame has not died out. Few foxes would care to be "at home" in Grange Whin, or Waterloo Plantation, or among the laurels of the Terrace Walk, close up to the house, if they could read when John Parker and the Sinnington intended to call; and although the hounds are collected the night before, and drop off, one by one, to their farm settlements, as the huntsman rides home, they can account for their twenty brace in a season.

The old castle lies just within the Duncombe Park gates, in the midst of the little primitive market town of Helmley; but the wild music of the cannon which was once levelled against it for six weeks by the Iron-

sides, under Fairfax, is exchanged in these happier times for the caw of the rook colony, which sail solemnly in circles round its ivy-shrouded ramparts. The only room left in it is used on rent days, and few farmers on all that vast property, which stretches away fifteen miles to Cleveland bank, and seventeen to the East Moors, pass through the lodge at those *levées*, whether they love shorthorns or whether they do not, without exchanging a word with "Old Anna." It is many years since she resigned office as head cow-woman, and her Herd Book memory seems to have stopped short at that point. She has caught no reflected glory from the Fifth Duke of Oxford and Symphony, and professes, we grieve to say, quite a fashionable unconsciousness of their very existence. Her heart was irretrievably lost some thirty years ago to a "Young Grazier," and her love has known no change. As for Bates and Booth, she "might have heard their names;" but Mr. Collings and Mr. Wiley, they were the men for her. Grazier would be by one of Mr. Wiley's bulls, and he was always buying from Mr. Collings. No wonder there was such a sympathetic chord! What were modern breeders, and their Bates grandeur, and Booth substance, and Fawley neatness, to her? Give her the cows of her buxom womanhood—"big roomy yans." Then, warming with her subject, after this general sentiment, she ticked her ancient favourites off on her fingers. "*There would be Emperor,*" she said, "*and Baron, and Baroness, all out of one coo—Wildair; THEM WERE just the shorthorns! I could tell my lord, when the gentlemen came, every one of their yages for fifteen years back, and all about them.*" When we saw that fond and yet triumphant leer, we did not wonder (though in stature she is not the woman to wrestle with a bull) at the recital of that mysterious fascination on which she next dwelt, when the mention of Young Grazier touched another and a still tenderer key. Away she went at score, leaving our pencil and notebook staggering hopelessly behind. "*Aye! Young Grazier—you've got that right enough;—he was a savage one, but I could just handle him as I liked. None could lead him out to please my lord, like Old Anna.*" Waxing bolder, we then cross-examined her as to their parting scene. "*Took him away when he was sold? Now who's been telling you that? Of course I did. No one else dar come nigh him. I walked seven miles on end with him, that I did. I had clogs on in those walks, and I could use 'em quick too.*" To a last inquiry as to whether she had not extended her walks in another direction, and driven True Blue's dam to the butcher at Stillington, she gave us to understand that she had a slight weakness for that "coo" as well, and was determined to "*see the far end of her.*" And on we strolled from this old marvel to see the modern herd.

We had received a parting assurance that "*they can give a good pedigree of me at the farm up yonder—a five-and-twenty years yan,*" which would place the commencement of her premiership back to about 1818. Before that date, the late Lord Feversham, then Mr. Charles Duncombe, had nothing but Devons, and

found them too delicate for the climate. The Barmpton sale was the beginning of his shorthorn herd, and Wildair, by George (176gs.), and Young Moss Rose, by Wellington (190gs.), both of them above five years old, were his purchases. At Mr. Mason's sale, eleven years afterwards, he gave 94gs. and 69gs. for two Satellite heifers; Major Domo was an accession from the Castle Howard herd; and he also dipped into the Booth blood by buying a bull from Major Bower, and hiring Albion from Warlaby. The present Lord Feversham has continued the herd quite as much for his tenants as himself, and with the same cosmopolitan spirit; not sticking to any particular lines of blood, but purchasing at sales, as often in person as through his agent, anything which from its symmetry and pedigree seems most likely to prove valuable. At present it numbers about fifty head (besides twelve or thirteen at his Lordship's seat at Oakhill, near Barnet), and some of the bull calves, which have come in a 6 to 1 proportion during the last few months, are sold to the tenants soon after they are dropped. To judge from his purchases at Kirklevington and Tortworth, his Lordship's inclination has rather been for the Bates blood, whose bulls have done him good service. He gave 300 gs. for First Cleveland Lad; and when he proved unable to serve, Second Cleveland Lad (the sire of his Perfume and Belinda) was lent, and the two were at Duncombe Park together. This Cleveland Lad cross did much towards restoring the milking properties of the herd; and two cows of the breed gave as much as forty quarts of milk a day between them. Belmont and Jenny Lind were by the Earl of Beverley, whom his lordship hired from Kirklevington for a year; and the latter, a still well-remembered shorthorn specimen, took the first prize at Smithfield in 1850, when the cow classes were open to all breeds; while, in the following year, Puella, by First Cleveland Lad, from Primula, by Grazier, earned the same honour. The Smithfield Show was also the early destination of Wild Eyes 29th, who was among his Lordship's four purchases at Kirklevington, as she never had a live calf herself, and had nearly set all the other cows wrong. Hence they deemed it best to feed her, and won the silver medal in the extra stock class. Ebor, by Third Duke of York (10,166); got two or three things, and then died; Oxford 12th died after her first calf, and in fact, the only one which bred was Duchess 61st, the dam of Desdemona, and the cream-coloured Highland Duke, the sire of May Duke. At Tortworth, his lordship bought China, a two-year-old half-sister to Oxford 12th, for 90 gs., and came out with a vigour worthy of the occasion for Fifth Duke of Oxford, by Duke of Glo'ster (11382), dam Oxford 11th, who was little more than five months. Never was 300 gs. better laid out; and the 120 gs. for his half-brother Glo'ster, who was a month younger, also came back with usury. In 1855, Glo'ster was second to Booth's Windsor at the Royal and the Yorkshire Society's Shows; in 1856-57 he was the prize bull at Paris and York; and in the following year he was sold for 200 gs. to Australia,

leaving no mean legacy to Duncombe Park in Perambulator and Prince Imperial. His lordship was also a buyer of the highest-priced lot at Mr. Kirkham's sale; and Vauxhall, by Duke of Cambridge (7987), 36 guineas, and Mint, by Captain Shafto (6833), for whom Mr. Hopper Mason fought him out, bidding for bidding, up to 160 guineas, are still in the herd; but Lavender died from a remarkable accumulation of warts, all underneath her, after having a fine calf, Lady Mayoress, to the Fifth Duke of Oxford. Oakleaf, by Duke of Glo'ster, 81 guineas, and Fanciful, 51 gs., from Mr. Tanqueray's; Blithesome, by King Arthur (13110), 70 gs., and Symphony, by Jock of Hazeldean (13085), 96 gs., from Mr. Marjoribanks; and Claribell, by The Earl of Dublin (10178), 95 gs., from Mr. Grenfell's, have been his lordship's principal purchases of late years. Those at a less figure have generally gone to Oak Hill, where Saucebox and Dairy, from Cobham, now roam.

We had learnt this much of the antecedents of the herd, when we reached the summer temple at the top of the avenue, and then leaving it on the left, turned into the first farm-stead, through a handsome troop of those Polish fowls, which seem to have fled the earth before the allied forces of Spanish and Dorkings. The buildings here, which are sufficient to accommodate eighteen cows and several calves, are of a neat but simple description; the gangways were strewn with sawdust, and the beds were of fern, a supply of which stood piled in a large stack hard by. Fanchette, a purchase at Mr. Ackroyd's sale at Farnley, was the first to show. She has a very nice head, and looks like a milker, and of her breeding powers we had good proof in her white and rare-coated bull calf by Prince Imperial, whom, from his size, we felt disposed to ante-date by nearly three weeks. Bloomer, by Ben Nevis (9960), from Blue Bell by First Cleveland Lad, was bred by his lordship, and is a nice clever cow, with beautiful quality, and especially neat in her bosom and fore-quarters and head, which wears the gay waxy horn of Kirklevington. Mint, a compact, but not very large cow, with a good back and loin, and well-sprung rib, has dropped the prefix to her name, which she bore at Mr. Kirkham's, but without reason, as far as her success is concerned. One of her daughters, Millicent, by Highland Duke, was sold to the Emperor of the French last year for 100 gs.; and Medora by Glo'ster, and Melody by the Fifth Duke of Oxford, have all proved happy crosses for her renowned Captain Shafto blood. Sunrise, by Glo'ster, and her dam Sunflower, appeared together, but the daughter is an improvement on the mother. They go back through Sunshine by Second Cleveland Lad to Sunbeam by Grazier, who slipped into a drain and died. Sunflower has at present a bull calf Stackallan, by Fifth Duke of Oxford, who forthwith appeared from the opposite side of the yard to meet her, and is, with the exception of a little plainness behind, a very clever calf. And so, through Laurel Leaf, by Bumper, a very neat cow, with a Splendour heifer calf; Buttercup, by Belmont, not a big cow, and with a good deal of the old fashion about her; and Blithesome, who is small,

but has all the Buckingham quality, we reached Charm. This cow is more of the old Wild Eyes sort, and very nice in the horn, but hardly equal to her red heifer calf Charmer, by the Fifth Duke of Oxford. She is by Leicester (14787), who came originally from Lord Berners, in exchange for another calf, and her calf Charming Lad won in a tenant's hands at Kirby Moorside last year. Claribell was a very stylish cow, with beautiful fore-quarters, and shows great breeding. Unluckily, her bull calf died, and she has never bred since. Cheveril, by Prince Imperial, does both him and her dam Cheerful every credit, and a nicer and more mossy coat we have seldom handled. There was also another of the Fifth Duke of Oxford heifers in the shape of a twin from Belinda, who is since dead—quite a Bates both in colour and head, and with ears and nostril standing out in true Kirkleavington fashion. Choice, by Highland Duke (13025), from China, struck us as a particularly even-made, hearty cow, with a nice back and ribs, but a trifle plain in her hind-quarters. Bloomer was the plum of the lot, and she never looked better than when we watched her and her companions, including three or four Alderneys, which are kept to improve the cream, strolling quietly into the park after parade, beneath the overhanging oaks and beeches of Blackdale Howl; Claribell, with her gay neck and head, leading, and the old cow bringing up the rear.

And so we strolled across the wide and beautifully-belted park in search of the others, and took a preliminary peep down the valley of the Rye, which bounds it on the west. The broken ground on the opposite side of the river, which terminates in one point in the dark green of the Waterloo plantation, which was planted as a wood of victory by the late lord, is singularly rugged and beautiful; and a distant peep of the hills of Hambleton, with all their Kingston and Knight of St. George recollections, may atone, to "a stable mind," for getting none of the ruins of Rivaulx Abbey, which still linger, in all the majesty of calm decay, a little further down the valley. The Griff Farm, that scene of Old Anna's glories, to which we were bound, lies about a quarter of a mile from the park, along a field route, lined, at intervals, with those dark-green holly trees peculiar to this Riding, and which catch a stranger's eye at once from their enormous size. Ear, however, came into play before eye, when we at last neared the box of the Fifth Duke of Oxford, and were saluted with a roar, quite worthy, in its depth and tone, of a Libyan King of Beasts, and he looked the character to the life, with that shaggy "lion-like old head" and mane, as he was at last led forth, snorting, in blinkers. The fine length, beautiful touch, and rare union of hip, loin, and rump take the eye as much as ever; but although he is reduced some twenty stone since he wore the Chester and Northallerton prize ribbons, his day of usefulness is, we have reason to fear, like his temper, quite gone. Still, he seems active, and walks two hours a day; but the change from training to ordinary life, although he was let down quite gradually, ruined his mettle, and he has not served a cow since the autumn. The £5 prize at the Cleveland Show

was his maiden one at two years old. In 1856 came the bronze medal, which is equivalent to an H. C. at Paris; and at Rotherham that year he only bowed to Grand Turk. His son Skyrocket, from Swift, who faces Prince Imperial in the next place, did not serve till he was banished for penance to some poor land at Cockayne, adjoining the moors; and several roan heifer calves have recently been dropped to him by cows belonging to the tenants in Bransdale. He is of a beautiful colour, with long quarters, and a stylish head, but with not quite the quality of his sire, or the massiveness of Prince Imperial, who is a year his senior, and like him a prize winner at the shows of the district. The latter, who was calved on the May morning of 1856, is by Glo'ster, from Perfume by Second Cleveland Lad, and through her, in the good old line, to Grazier. He is a splendid roan of great length, with especially fine hind quarters, and well let down in the twist, in short an awkward July customer in the "Lammas Meadows." In neatness he was perhaps excelled by his brother Perambulator, who is very remarkable in that respect, and was highly commended as a calf at Northallerton. Splendour by Glo'ster formed another of the congress, and so did Oxonian by Fifth Duke of Oxford, who is level and clever, but of rather a bad colour.

As we left the bull boxes, old Vauxhall, who is upwards of eleven years old and very lame, headed a procession of her Duncombe Park produce (in which Victor Emanuel, who was sold to the Duke of Montrose, alone was wanting) on to the little green behind the yard. She was originally bought in calf with Varna by Usurer, who followed her; and then came her Victorine and Valetta, both of them by Fifth Duke of Oxford. Victorine is very level and beautiful, but was never shown; while Valetta, who was highly commended at Northallerton, has hardly quite her style, and seems to have grown a little plainer since she was in public. Symphony, on the contrary, has improved most wonderfully since Mr. Wetherell's hammer fell at Bushy Grove. After being placed second to Queen of the Isles as a calf, she won high commendations both at Chester and Northallerton, in a year quite unparalleled for strength. She is wonderfully thick and elegant throughout, with a deep bosom, and peculiarly catching forehead; and her offal is so fine, that some judges have positively taken exception to her on that score. Unluckily, she will be springing with calf to Mayduke the week before Warwick, and hence the class will be shorn of one of its most promising features. Mary, Chivalry, Alma, a capital toucher, but not very handsome, and Piccolomini—all by Fifth Duke of Oxford, then joined in the rank and file; but although the last named is a very square, true-made heifer, the eye gets dainty after a glimpse of Symphony; and for this reason perhaps Olivia by May Duke, and Medora by Glo'ster, whose colour is a good deal against her, received less notice than was their due. There was Songstress also from the Grazier blood, of a very grand colour and style, and her twin sister Stately, whose somewhat upright horns were her only take-off. Portia, a long low

thick style of cow, with a rare back and good character, who was commended at Lincoln, and won at Kirby Moorside, was the last of the cows save one, and that was Bride, a white cow on a large scale, of the Castle Howard breed, who is in active training for the Christmas Fat Shows. Three were in the calf houses; to wit, Chorus by Splendour; a bull calf by Prince Imperial, from Oakleaf; and the infant of the herd, the last produce of China, in the shape of The Duke of Chester, so called from his being the first that was dropped to the Fifth Duke of Oxford, after his victory on the plains of the Dee. His fine quality and remarkably beautiful head make him worthy of his name; and he has found a new owner at a hundred pounds.

Old Anna had a few last words with us on our return, to correct some statement about Baroness; but she treated with proper disdain all our hints that she should make "her positively last appearance" in the Shorthorn world, and try those soothing wiles on The Fifth Duke, which had won her Young Graziar's heart. She does not, however, monopolize all the character of the place, as it came out in a remarkable degree in the omnibus youth. Sandry embraces and trunk hoistings had made him very late, and the smoke of the train was full half a mile beyond its accustomed point, when we got to the last long bit of level road. Nothing daunted, he set to, and with his cigar in mouth, his left hand on his hip, and his cap knowingly cocked, he remarked that now he would "just give us a touch of the mail coach days." At first, we felt as much concerned as if another "Peter the Wild Boy" had been caught in the Grange Whin, and raised forthwith to whip's estate, and heartily wished ourselves (as we held on for our life, amid those perilous rockings) at the quiet side of Symphony once more; but a fourteen-miles-an-hour velocity just beat the train, and a most fearful pour down to boot, in a most exciting finish; and we were soon snugly *en route* for Athelstaneford.

CHAPTER X.

THE BABRAHAM HERD.

Babraham, Tiptree, and Doncastere, are said to be the three shrines, towards which all foreigners of agricultural and stable mind, journey, like pious pilgrims, before they depart from our shores. Like them, we had been insensibly led to believe that Mr. Jonas Webb was quite unitarian in his admiration for a long line of fleecy heroes, whose fame had been spread through Old Babraham, Plenipo, and The Captain, into all lands; and we were hardly prepared to find that while the Southdown flock was still in its full strength, a herd of 142 head of shorthorns had gradually arisen at its side. It was no little relief, with the hot shout of "Promised Land!" and "Mayonaise!" still ringing in our ears, to get quit of The Devil's Dyke at last, and find ourselves on these Downs, so fraught with Bishop's Charity and Quaker Charity Farms, which separate Babraham from Fulbourne, and with no other sounds in the air than the lazy tinkling of the wether bells, the fitful objurgations of the crow boys, and the ceaseless chatter of a troop of girls, busy among the mangel ridges, in the best of

spirits, and the broadest of straw hats. Cambridgeshire told its true Christmas tale, as we turned off the Roman road, and espied another of these fair Broadbrims looking after a flock of turkeys, while she plied her crochet work under a scanty hedge; and then Babraham began most unmistakably to prophesy of itself, as we approached "The Reed Barn," and part of Mr. Samuel Webb's flock of southdowns would hardly get out of the way. Anon we leave Gog and Magog, with their thirty-three church prospect and their Godolphin Arabian glories, to the right, and we are soon skirting the well-wooded park of Mr. Adeane, M.P., whose southdowns and pheasants seem to flourish in harmonious fatness. Mr. Webb once lived in a portion of this park, but the site of the house where three-and-thirty years come July he entertained the guests at his first ram-letting, has been merged into a plantation. The meadow, which was erst the scene of those busy marts, is still rich in buttercups as ever; and as we think of the great agriculturists John Duke of Bedford, "Portland," Earl Ducie, and a host of others who have stood there in their time, the Granta brook, which does not rise into the full-blown dignity of "the willowy Camus" till it nears the University, which has written so much in English and Greek and Latin in its honour, may well seem to whisper as it ripples gently past,

"And men may come, and men may go,
But I flow on for ever."

Two thousand at least rallied round Mr. Webb at that spot, in the year of The Cambridge Royal, and it was then that the Duke of Richmond, with rare foresight, made his first 100 guinea offer for a mere ram lamb, which was destined to win the head Royal prize at Liverpool and Bristol in succession, and then to earn his name "Clumber," from the home of his noble hirer: Dick Gurney, the best "jockey of Norfolk" across the pastures of the Pytchley and the Quorn, was not thought "too bold" when he offered 360 gs. in vain for Thickthorn (whom he had hired the year before) and his sons Babraham and Cantab. The agents of crowned heads are also busy each July in the new letting meadow, and the Emperor of the French paid his tribute to the "dark faces" at the Paris Exhibition of 1856, by the presentation of a piece of plate to Mr. Webb, with the "truly British" design of a couple of blood-mares and their foals, standing under the shade of a gnarled ivy-grown oak.

A chesnut Suffolk mare, and a foal by Mr. Fisher Hobbs' prize horse, was the only occupant that morning of the meadow, which lies within a stone's throw of the present residence; and although the paddocks were plentifully dotted with rams, it was not until we got into the fold yard that we became cognizant of the presence of shorthorns at all. Mr. Webb's farms consist of about 1,200 acres of arable and 100 of pasture, and his herd is kept specially to make straw into manure. They are all fed well for this purpose, but forcing and training for shows is not part of his plan. No cow brings up its own calf, but the most promising young bull has simply two or three sucks to keep the wind off his stomach, and nurses are unknown. The herd, which

was begun in 1837, is made up from six different tribes, the first of which was purchased, through the agency of Mr. Stafford, from a Mr. Allison, in Nottinghamshire. It consisted of *Medusa* and Mopet; and it was from the former, of the Spencer blood, that Mr. Webb bred Victoria, by Chancellor (3335), whom he showed at the Cambridge Royal as a yearling. Through this cow, whom he was especially anxious to cross with Mr. Adeane's best bulls, the tribe went on; and First Duchess of Richmond, Lady Godolphin (who had twins four times in succession), and Lady Caroline, the dam of four Lord Dacres, three of which went abroad, have sustained it right well. Two years later, Mr. Webb dipped again into the Spencer blood, with *Dodona*, by Alabaster (1616), from Mr. Mason's No. 6. She had already bred two calves; but, although she was only five years old, she was thought to be a somewhat speculative purchase. However, she had twin heifers to Vanguard (5545), only one of which, Duchess, was retained, and then Countess, the dam of Lady Louisa and Lady Ann, the latter of whom has bred twelve living calves. Vanguard, who was purchased by Mr. Adeane from Wiseton for 50 guineas, as a calf, was a very good bull; and Mr. Webb used that gentleman's Pam (6272) and Paris (7314) very freely, and did not keep one of his own till he purchased Minstrel (8687), in 1845, from Mr. Maylans, of Warwickshire. He was by Accordion (5708) from Charmer, by Little John (4232) of the Fawley blood, which it seemed desirable to cross with Lord Spencer's. Scrivener (10791) was purchased from Lord Ducie in 1849, and through him and Lady Bird from Belinda, Mr. Webb had a double dip into old Usurer in one year. It was about this time, too, that he added Red Roan Kirtling by Battus (7816), from Bessy, half sister to Buttercup, to his bull list, and by putting him on Countess, got the Marquis of Bute, the sire in his turn of the Earl of Hardwicke. Mr. Bates's stock found its first representative in *Celia* by the Third Duke of Northumberland, who was bought at Mr. Beaufort's, of Bletsoe, sale, in calf to Percy by the same bull, and the produce, The Countess of Hardwicke, was the eldest of ten. Mr. Webb's eldest son, Mr. Henry Webb, has some representatives of the first three tribes at his farm at West Wickham; with their produce by Young Cheltenham, besides a pair of twin Duke of Cambridge heifers from Flora by Kirklevington (14333), and others of the Cheltenham stock, but time pressed, and we were unable to visit them.

A fourth tribe was added in 1848, through *Belinda* by Ranunculus (2479), from Sylph by Sir Walter (2637). After Lady Bird by Usurer, she had Lord of the North (11743) and Lord of the South (13216). The latter went for 150 gs. as a yearling to Australia, leaving only four or five calves; and from the cross between Lord of the North and his dam, the only instance in the herd, came Young Sylph, who found a 120-guinea purchaser as a yearling at Paris. Belinda bred in all three bulls and three heifers; and Lady Bird, with four heifers by Lord of the South, still represent her in the herd. The purchase of *Boddice*, the founder of the fifth tribe, originated in Mr. Webb's not caring to go beyond his five-hundred-guinea bid for Duke of Glo'ster (11382), amid the frenzy of the Tortworth sale; and hence he was determined to buy something in calf to him, as well as a bull by him. The determination was neither rash nor unfruitful, as Boddice (125 gs.), and in calf with Duchess of Glo'ster, not only brought a strain of Lord Ducie's old Bessy into the herd, but bred Grand Duke (12695), who was sold for 200 gs. at Paris; while Cheltenham, the 125 guinea Tortworth calf, and the sire of both her Grand Dukes, put his mark for good more unmistakably on the herd than any other bull,

and was sold after three seasons for the same price to Lady Pigot. The Princess tribe was also added through *Daffy Gwynne*, who was bought at Mr. Tanqueray's sale in calf to the Duke of Cambridge (12742); and it was in order to get a double "Oxford mixture," by crossing her with the produce, Duke of Cambridge (14433), that Mr. Webb would not leave *The Beauty* at Mr. Combe's.

The Duchess of Glo'ster was almost the first cow which caught our eye as we crossed into the largest fold-yard. She bears a strong resemblance to her sire in her general look and quality, and is remarkably sweet about the head. Mr. Webb has twice over refused 300 gs. for her; and she is so deep a milker, that they have sometimes to milk her three times a day. Countess of Mexborough, a daughter of the Countess of Hardwicke, is another honourable name in the Babraham peerage; and her dam was scarcely one and twenty months when she was calved. Like their eldest sister, Heartsease and Happiness bore no witness against this early breeding, as the Australians liked the former sufficiently to give 200 gs. for her; and Happiness, who was sold for 50 gs. more to Lady Pigot, won the first prize in her class at the Royal Irish Society last year, and the gold medal as the best of all the cows as well. Unluckily she caught cold on board ship, and died soon after she reached Chippenham Park. There was also the Countess of Caledon, and her sister the elegant Lady Stuart de Rothsay, both by Red Roan Kirtling; Lady Elizabeth, a younger sister of the Countess of Hardwicke, stood near her, holding silent converse with Queen Lily, a very good gay heifer of the Dodona tribe; while Daffy Gwynne, with her fine size, and that remarkable head which has been preserved in the tribe for forty years, reminded us once more of the "old, old fashion." Just underneath the antique pigeon-house, we found the first relic of Young Holland, who perished from a stroke last year, when the sun rose to 132 degrees vertical heat, above the Chelmsford show-yard. They got him out of it, after he had won the open challenge prize, without comprehending the extent of the mischief, and he walked in the evening from the Chesterford station to Babraham, but he was found dead in his stall next morning, as cold and stiff as a piece of black marble. The young bull Goldfinder, from Lady Jane, was a thick, good-looking animal, but too shy to show himself to any advantage. Standard Bearer by Earl of Hardwicke represented Lady Jane this year in one of the calf-houses; and in the next one was a daughter of the Countess of Caledon, who dips slightly in the back like her dam; but still there is very good length and a remarkably good coat to compensate. Astræa's calf, the first that has been dropped to May Duke, kept her company, and has a good deal of the Gwynne style about it. There were also two more of the Earl of Hardwicke's bull calves; one of them a remarkably lengthy one from the Duchess of Glo'ster, and another from Lady Ann, especially good in the shoulder, and rich in the hair. Young Holland also claimed two out of the three bull calves who came bouncing out next on to society. One of them, from Mocking Bird, has a peculiarly catching forehead, and his horns go back with that sweep which lends such a delicate grace to the head of Rose of Athelstane; but the one from Lady Stuart is decidedly the truer and the thicker throughout. Old Lady Ann, the patriarchess of the herd, was in another yard, and she still looks wonderfully gay and straight for her age. Lady Jane is not one whit behind her in her breeding powers, and she goes as a capital representative of the blood of Red Roan Kirtling into the cow class at Warwick. Young Celia, a remarkable milker, and very Bates-like in her general look, was there, and her head stood out

in contrast to the somewhat Roman one of Miss Abigail at her side.

The cream of the yearling heifers composed a quartet, in a sort of intermediate half between this and the one allotted to the bulls. Miss Emily and Lady Alice Burdett, the one with a great deal of the Athelstanford and the other with the Waraby character about it were perhaps the pick; but Duchesse de Maille was a good third, nearly equal in her substance, but not quite so striking; while Second Duchess of Gloster has rather a coarser head and requires time. The two senior bulls, Earl of Hardwicke (14476), and Duke of Cambridge (14433), stood tied up behind large canvas curtains, parallel to the entrance of their shed; and hence at first sight we were only favoured with a glimpse of the fine lengthy huggins of the one, and the strong Daffy Gwynne head of the other. "The Duke" has quite a Godolphin crest, and is remarkably low in the twist; while "The Earl" pleased us more especially by his fine length generally. There has as yet been only one more bull out of the eleven from his dam, but it was castrated in consequence of an injury in attempting to jump a gate. Three younger bulls were tied up in another shed, one of them a half-brother to "The Duke" by Young Holland; and Gold Jacket by Young Cheltenham, a very thick one, who is bound to Australia. There were also a trio of heifer calves of remarkable promise on the other side of the wall, one of them by the Earl of Hardwicke from Young Celia, with a very beautiful head and long crops, but unfortunately just too old to show as a yearling; while Lady Alice had no mean belle to follow her, in Lady Augusta Burdett.

Before we sallied forth again to the two outlying farms, we turned for a slight interlude from beef to mutton. Even in our Shorthorn researches in the Home farm, the embodiment of the latter was always in view, in the shape of "Derby" reduced two thirds, and doing duty as weathercock, on the top of the old barn. The leg of mutton point on which he was so great, has certainly been made the most of by the modeller; but it comes out in all its strength in many of his descendants among the July yearlings. The old long-horned Norfolk rams, whose narrow backs and sharp spines proved such a very uncomfortable seat for Mr. Webb, when he used to ride them in his boyhood at West Wickham, and set him a thinking in his maturer years, live only in story at Babraham now; and not one even is kept as a relic of the dark ages. The South-down flock at present consists of about 1,400, and about 1,000 lambs as well. Originally there were three tribes, but a fourth and fifth have been added; and Mr. Webb never hires rams, as he can now always keep the blood sufficiently distinct without it. In number the tribes are nearly equal, and they have all produced prize sheep; and at present there are from 120 to 140 rams, for letting next month. The selection is made within fifteen days from lambing, and upwards of 200 ram lambs are retained each year. Besides the elaborate ear marks, and divers others on the shoulder and hip, they have cabalistic crosses of green above yellow, blue above red, and so forth, on their sides, which tell their descent at a glance to their owner's eye; and furnish an unfailing clue, when they rise to ram hogget estate, and are ripe for entry in the Flock Book. All the fleeces are weighed, and if they do not come up to 7 lbs. the ewe hoggets are sold to go abroad. The Old Babraham shearlings nearly all averaged 8 lbs., and although the late mild winter and spring was not favourable to the growth of wool, the majority of the fleeces this year have touched it. The nature of the soil is, moreover, not peculiarly favourable to wool, as it is gravelly, and almost fine enough for an hour-glass; and the sand rather prevents the grease from getting through the fleeces. Mr. Webb never sells ewes in England: he has a few

from twelve to thirteen years old, and he has bred from them at fourteen, but the rams are seldom let beyond their seventh season; and the heaviest of them have killed at 50 lbs. a quarter. The losses among the breeding ewes are calculated at about one in twenty; and as the difficulty of breeding is much enhanced by the want of grass, Mr. Webb has had anything but a May-game of it, in bringing his flock to their present position. Two lots of yearling rams, making some forty in all, were in training for the final Warwick Royal Selection, on some seeds behind the house. They were principally by the prize old sheep and the first and second prize yearling at Salisbury; and we found on enquiry, that the second prize old sheep has gone to America. Plenipo, who was a yearling in 1834, when his great cheestnut namesake and neighbour was in his senility, swelled the tide of Southdown success for Mr. Webb; and The Gentleman, Clumber, Liverpool, Shrewsbury, Derby, Young Elegance, Gloucester, The Captain, and Old Uncertain, &c., have never suffered it to ebb. There was Fancy Boy also, who was never let, and hung himself in early life in a fence; Perfection, the sire of The Captain, for whom Mr. Lugar's offer of 150 guineas as a yearling was refused; Dictator, who elicited a like answer; and Windsor Castle, the conqueror of his half-brother at Windsor, who received the name of The Queen's Own, from her Majesty's expression of dissatisfaction at the verdict, though the royal prerogative was not potent to reverse it. Fifty yearlings for letting were busy on the yellow globe mangel in another paddock; and two renowned heroes, to wit Old Duke and Young Plenipo, were railed off in state at one end. The latter has the Babraham flock blood in him for ten generations on the dam's side; and Mr. Webb valued him so highly, that, in spite of a 200 guinea offer, he kept him for two seasons, and let him last year for the first time. Old Duke is five years old, and has achieved 410 guineas at three lettings. In one of them Mr. Henry Overman bid 169 guineas; and the Duke of Richmond made it even money, and got him. The pasture behind the fold yard was full of Old Duke's descendants; and Young Captain, the flock patriarch of the Emperor of the French, who hired three last year, could also claim a hand in some of the ninety couples of glorious legs of mutton, which scampered off at our approach.

A short ride past Sawston Hall—whose woods, with Mr. Adeane's, encircle the farm, like a dark green belt—and the quaint old village cross, brought us to the Huntington Farm, amongst the herd once more. Fourteen or fifteen cows were in the fold-yard. There was Young Wallflower (whose first bull by Cheltenham went to Sweden), looking very poor, but with a rare character at the milk-pail; The Countess of Hardwicke, with her fine wide hips and great length, and reminding us both in her staring colour and general character of Aylesby Garland; and Empress of Russia, the eldest daughter of the Countess of Mexborough, and a nice snug cow, and rather neater in the offal than her dam. Along with them, we also noted Miss Bletsoe, one of whose bull calves is in the royal stalls of Holland; Grace Aguilar, the dam of Thorndale, and, like Lady Sextus and Amy Robsart, of Wiseton descent; Queen of the May, the dam of Mayduke, another of the snug ones; and so on to Lady Caroline. We then entered the barn, and as the eye gradually settled to it, we were conscious of a long dim vista of calves and bulls, arranged along the sides and ends. In fact, every barn and building seemed as inexhaustible in shorthorns as the conjuror's hat is of eggs and other knick-knacks at a Staty Fair. They came on to us out of snug little hiding-places when we least expected them, and those hiding-places were legion. Six heifer calves were housed on one side of the barn, with Lady Elizabeth Yorke, a daughter of the Countess of

Hardwicke, as the belle, and Miss Amelia next to her in merit. Lord Royston, a yearling bull from Miss Bletsoe, then marched out in the shape of a good-looking red animal, very like Cheltenham both in colour and his forehead. A stylish Brother to Sir Charles, by King Alfred from Ermenstrade, followed with Lord Derby, by Second Grand Duke (14640), behind him. His lordship was rather thin in condition, as he was taken from the milk too early. His half-brother won the yearling bull prize at the recent Colchester Show; where a Cheltenham yearling heifer was alike fortunate in her class. Young Merry Lad, a very gentlemanly gay bull, with good crops, fine quarters, and a very blood-like head, along with Captain Cook and two others exhausted the bull supply in the barn, but a couple were still to come from the adjoining stable. May Duke, the winner of the challenge prize at Colchester, who has so amply vindicated Mr. Webb's Duke of Glo'ster fancy, showed first, and although he may, perhaps, be a little on the leg, and not very catching in his crest, he is one of those even-made useful bulls, with the best of backs. For his age, Sir Charles has, perhaps, more size and finish than any of them, and it seemed as if a wheel-barrow would go with ease through his front legs. His quality was undeniable, and he is very long and good in his quarters; and another year ought to make a very grand bull of him.

It would have been strange indeed if we had not "drooped and turned aside" once more from the short-horns, to visit a flock of 300 ewes and lambs, before we proceeded on to the North farm. The dam of Young Norwich and Young Plenipo needed no pointing out, as the veriest tyro ought to have challenged her as "a mother of the Gracchi;" and there was also the dam of the 197 guinea ram by Young Elegance, with a ram lamb, by a son of Young Plenipo, at her side, which bids fair to be as good a Southdown King in its turn. Three more sons of Young Plenipo were among the forty picked rams, who were ruminating with Young Duke among the clover of the North farm, which lies rather more than midway between Sawston and Babraham. Eight heifers were its principal tenants; four of them by Cheltenham, and four by Young Cheltenham. There was Lady Pigot, a roan yearling, wide and close to the ground, and half sister to Lady Mary Craven, who is unfortunately just too old to show as a yearling. She is among the very best of the herd, with a wonderful middle especially, well placed shoulders, and the

sweetest of heads. Rising Star, a clever Suffolk chesnut of Mr. Webb's, occupies the stable, and his dam, who was never put to the horse till her twenty-second season, is still "chating Natur" by working in her twenty-seventh.

But orthodox as the chesnut is, we cannot afford to linger over him. We have passed through the last flock of Southdowns, and under the broken arch of the grass-grown Newmarket railway, and we are once more on the high road, with a troop of gaunt Hampshire downs grazing at its side, as if on purpose to reduce us, at one fell stroke, back to the contemplation of the sheep-walk of common life. The Field farm has next its shorthorns to show, with a Daffy Gwynne heifer by Young England, an especially good roan twin from the Countess of Mexbrough, Celia II. and old Wallflower among them. A roan bull calf by Young Duke of Cambridge, from a Cheltenham heifer, will also bear looking at and handling as well; and "The Duke" and the Duchess of Glo'ster have no reason to be ashamed of the Prince of Prussia, a long, low bull, with a forehead very full of character. But the herd was not at an end yet, and the old inn yard at Chesterford, of which the walnut tree, under whose shade generation after generation of postboys must have smoked their pipes, is still the time-honoured centre, has yet to be visited. The stables, from which 40 pairs could issue on a Newmarket week, have given up their old vocation. Miss Goodwood, no unworthy sister to Lady Pigot's Empress of Hindostan (who has vindicated the honour of Babraham both at Barnstaple and Swaffham already), and a good roan heifer by Cheltenham, from Lady Jane, lent life to them yet. Ermenstrade, with the neatest of shoulders, and altogether a remarkably sweet style of cow, had a loose box to herself, and looked none the worse for having very recently got rid of a putrid skeleton of a calf six weeks after her time. There, too, occupying a whole stable, whose stalls had vanished, was The Beauty, a great slashing cow, though perhaps a trifle weak behind the crops, and her very clever blood-red Marmaduke heifer calf, with that beautiful head, which is the badge of all his stock, rallied off beside her. Remembering the steady but exciting biddings for this cow at Cobham, we should like to have seen more of the pair in their new abode, but the railway whistle told us there was no time to "dwell," and the land of the Southdowns was soon upon our lee. D.

W O O L.

BY CUTHBERT W. JOHNSON, ESQ., F.R.S.

The wool of his sheep is not only interesting to the farmer from its commercial value, but after being wrought into woollen fabrics he gladly repurchases it as a powerful manure.

It is only in modern times that his wool slowly escaped from the care of the legislature, or almost as tardily became known to him for its fertilizing powers.

It was as early as the year 1337 that we find the exportation of English wool prohibited. The same measure of injustice to the farmer was conferred in 1521. And in 1696 the wisdom of Parliament was evinced by the prohibition of the export of wool from England, or even from Ireland into England. It was not till the year 1824 that the acts of Parliament restraining the exportation of

wool were finally repealed. It was not always, however, without reason that the Parliaments of other days interfered with the *production* of wool.

Even as late as the sixteenth century the flock-masters of Ireland and Scotland had a summary way of gathering the wool from the sheep, which the rulers of those times were enlightened enough to restrain. Thus, by the act of the Irish Parliament (11 and 12 Charles II., c. 15), entitled "An act against plowing by the taylor and pulling the wool off living sheep," it is declared that "in many places of this kingdom there hath been a long time used a barbarous custome of ploughing, harrowing, drawing, and working with horses by the taylor, whereby (besides the cruelty used to the beasts) the breed of horses is much impaired in

this kingdom. And also divers have, and yet do use the like barbarous custome of pulling off the wool yearly from living sheep, instead of dipping or shearing them." These miserable practices were then declared to be illegal, and to be punishable with fine and imprisonment.

It is evident, however, that there had been a previous Irish ordinance on this subject, since such a reformation is referred to in a letter written to his Scotch council by King James, in 1617.

Chambers' *Annals of Scotland* (vol. i. p. 471) gives an extract from a curious entry in the Scotch Privy Council Record. The document states that "In some remote and uncivil places of this kingdom an old and barbarous custom was still kept up of *plucking the wool from sheep instead of clipping it*." The king hearing of the practice, wrote a letter to his Council, denouncing it as one not to be suffered; telling them that it had already been reformed in Ireland, under a penalty of a groat on every sheep so used, and was "far less to be endured in you." The Council immediately (March 17, 1617) passed an act in the same tenor, and after stating that many sheep died in consequence of this cruel treatment—concluded with a threat of severe fines on such as should hereafter continue the practice. "It is remarkable," adds Mr. Chambers, "that in the Faroe Islands there is to this day no other way of taking the wool from sheep than that which was then only kept up in remote parts of Scotland."

It is curious to notice by what slow degrees just notions were adopted with regard to the sheep and its wool, not only by the Parliament but by the farmer. We can only get hints of these things from the early English agricultural writers. Old Worlidge, in 1680, in his considerable folio work on agriculture, barely bestows a dozen lines upon the sheep. He tells us that in his time "The Herefordshire sheep about Leominster bore the fairest fleeces of any in England." But Worlidge ever seemed to prefer the live stock that had the most young ones at a birth: thus he concludes of the sheep, "But the Dutch sheep are the largest of all, being much bigger than any I have seen in England, and yearly bear two or three lambs at a time. It is also reported that they sometimes bear lambs twice in the year."

Whatever may have been Worlidge's notions with regard to sheep, he was evidently aware of the value of woollen substances as fertilizers, for he tells us in his chapter on the Manuring of Land, "In rags of all sorts there is good virtue; they are carried far, and laid upon land, and have in them a warming improving temper; one good load will go as far as a dozen or more of the best cow dung."

It was nearly two centuries after the time of this early English author on rural affairs that the use of woollen rags as a manure began to be better understood, and especially as to the portion of them in which their fertilizing virtue consists.

To this question Professor Way addressed himself with his usual caution and amount of success. He very justly felt that it would hardly be satisfactory to content himself with the analysis of wool, since, as he observes (*Jour. Roy. Ag. Soc.*,

vol. x, p. 617), to reason from the composition of a raw material of any kind upon that of the manufactured article, which has passed through perhaps half-a-dozen processes, is often to lay oneself open to much error; and nothing short of the direct analysis of the rags themselves would enable any person to form a correct notion of their manuring value. Wool in a state of purity contains upwards of 17 per cent. of nitrogen. Were woollen rags, therefore, of the same strength as the wool itself, they should produce *ultimately* a larger amount of ammonia than even pure peruvian guano. It will be valuable, then, to examine the chemical compositions of some of the commonly sold refuse woollen rags. These rags are well known, and extensively employed as a manure in some parts of our island. Owing, as the Professor remarks, to their slow decomposition in the soil, they are not well fitted for root culture—turnips and other plants of this kind requiring active and readily soluble manures to produce a rapid growth. Still this must not be taken as an undoubted fact, since, in the experiments of the late Mr. Pusey on the growth of beetroot (*ibid.* vol. vi, p. 530), when 13 tons of farmyard manure per acre produced 27½ tons of clean roots, the *addition* to the dung of 7 cwt. of rags raised the produce to 36 tons. This increase he attributed to the large proportion of azote or nitrogen present in the rags.

Woollen rags were formerly, as Mr. Way adds, to be purchased of good quality, and unmixed with any less valuable substance; but of late years rags, of a size that used to be sold to the farmer, are bought up to be reconverted into an inferior kind of cloth. The supply being in this way in part cut off, is frequently made good by the admixture of such linen or cotton rags as may not be worth the papermaker's attention.

Three specimens of these refuse rags were examined by the Professor. Specimen No. 1 consisting of the seams and other useless parts of old cloth, which had apparently been cut up to be re-manufactured into cloth. No. 2, called "pre-mings," and No. 3, "cuttings," appeared to be much of the same character, but totally different from the rags—they both consisted essentially of coloured wool less than an eighth of an inch in length. These all contained in their ordinary state a certain proportion of water. In the three specimens above referred to, the

	Per cent.
Rags contained of water	7.87
Premings	7
Cuttings	8.70

In this state the proportion per cent. of nitrogen which they contained, and the proportion of ammonia, which, by the decomposition of the animal matter, will be eventually produced from them, and from a specimen of "shoddy," is given in the following little table:—

	Nitrogen.	Ammonia.
Rags	10.47	12.71
Premings	9.92	12.05
Cuttings	11.84	14.31
Shoddy	4.55	5.52

It appears then, says Way, that it is quite

incorrect to estimate the value of the different kinds of woollen refuse by the known composition of the wool itself, for, to whatever cause the inferiority may be due, it is plain that they do not, on an average, contain two-thirds of the nitrogen found in the raw material.

The mineral substances found in wool refuse are of small fertilizing value. In 100 parts of some inferior wool refuse were found

Water	7.15
Animal matter and oil	58.52
Phosphate of lime	1.48
Oxide of iron and alumina.	2.10
Carbonate of lime	9.42
Sand, &c.	21.23
Loss, &c.	.10

This specimen contained about 2.5 per cent. of nitrogen.

Professor Voelcker has explained the chief reasons for the considerable difference of opinion, which exists in different places, with regard to the fertilizing value of woollen substances (*ibid* vol. xvi., p. 94). These, he considers, are to be best understood by a reference to their analysis, and the time of their application, and the physical composition of the soil. Shoddy, for instance, often contains from 20 to 25 per cent. of oil, which, by excluding moisture, and the atmospheric air from the interior of the wool hairs which compose this refuse, prevents its decomposition, as effectually as the oil in sardines, or a cover of grease the potted meat. And thus the decomposition of the shoddy is retarded for a considerable period, so that no effect is produced if it is applied to the land when the young wheat has already made its appearance, or even if applied two or three months previously. But if the same refuse is applied to the land a considerable period before the sowing of the crop which it is intended to benefit, or if it is previously brought into a state in which it will readily ferment (and then it may be applied at once to the young wheat), a very marked and early good effect will be produced by its use, since ammonia is then gradually formed from the nitrogen of the shoddy. In light and porous soils this necessary preparation proceeds much more rapidly than in stiff heavy lands.

The farmer by his practice confirms these chemical conclusions. The Kentish hop-growers, we are told by Mr. S. Rutley, in his prize essay (*ibid* vol. ix., p. 562), deem woollen rags, shoddy, and refuse seal-skins to be very lasting manures, but much more valuable and early in their effect on dry than on wet soils, all of them being the best adapted for the soils of the Kentish rag. On the Kentish hop grounds they apply from 12 to 20 cwts. per acre of woollen rags, 20 to 30 cwts. of shoddy, and about 160 bushels per acre of seal-skin. For corn crops on light chalky land, or for grass, about 10 or 12 cwts. per acre of woollen refuse are used in Oxfordshire and Berkshire.

The amount of wool produced by different breeds of sheep was some little time since ascertained by Mr. J. B. Lawes. The average weight of the wool per head, produced from 50 wether Cotswolds, 40 Sussex, 43 Leicesters, 40 Hampshire Downs, and 41 cross-bred wethers, was as follows:—

	lbs.	oz.
Cotswolds	.9	4½
Hampshire	.6	4
Sussex	.5	10
Leicesters	.8	2
Cross-breds	.6	7

The proportion of wool to 100lbs. of the live weight of the sheep, at the time of its being shorn in March, was

Cotswolds	.544
Hampshire	.377
Sussex	.457
Leicesters	.558
Cross-breds	.460

Mr. S. Bruce, of Ensham, considers the average weight of the fleeces of different breeds of sheep to be as follows (*Farmers' Almanack*, vol. vi., p. 219):—

	Ewe.	Teg.
	5 to 7lbs.	7 to 10lbs.
Cotswold	4 6	5 8
Leicester	3 5	5 7
Hampshire Down	2 4	3 6
Pure Southdown		
Cross Cotswold and Southdown	4 6	5 8

The importation of foreign wool has largely and steadily increased during the present century. Previous to the year 1800 all the wool annually imported barely exceeded 3,000,000lbs., and this was chiefly Spanish. About the year 1801 this had increased to about 9,000,000lbs.

In 1810 to	10,914,137 lbs.
1820	9,789,020
1830	32,313,059
1840	49,436,284
1850	74,326,778
1858	126,738,723

Of this large quantity in the year 1858, 16,597,504 lbs. came from the Cape of Good Hope, and 51,104,560 lbs. from Australia. Of these imports, 14,054,815 lbs. were exported in 1850, and 26,537,426lbs. in 1858.

A considerable quantity of foreign woollen rags, fit only for manure, are also yearly imported. In 1830 they amounted to 411 tons, to 1052 in 1840, and to 1102 tons in 1842—since which I am not in possession of an official statement.

It is remarkable how little the large supply of foreign wool has tended to reduce its English market value. From 1784 to 1790 the price of Southdown wool was about 1s. per lb.; in 1800 it was 1s. 5d.; in 1810 2s. 4d.; in 1820 1s. 5d.; in 1830 it had fallen to 10d.: it is now about 2s. And not only has the flock-owner had to contend with an annually increasing import of wool, but, moreover, the number of our sheep, and, consequently, the home produce of wool, has enormously increased during the present century; and, again, from improvements in their breed, the weight of their fleeces has also become considerably greater. The number of sheep in Great Britain were estimated, in 1698, by Gregory King, to be about 12,000,000. In 1740 they were calculated to have increased to 16,640,000. Arthur Young, in 1774, thought they were about 25,589,754; and in 1801 Mr. Luccott estimated them at 26,148,463. They

are now estimated to be about 35,000,000—England possesses 27,000,000, Scotland in 1854 had 4,787,235, Ireland in 1853 had 3,142,656, so that at 30s. a head the sheep stock of Britain is worth £52,500,000. About 10,000,000 are annually slaughtered; these at 80lbs. each furnish 800,000,000lbs. of mutton, which at 6d. is worth £20,000,000 sterling. Professor Lowe thinks that on an average each fleece weighs 4½lbs., so that the total produce of wool will be 157,500,000lbs.; fixing then the total yearly value of the wool of Great Britain at 1s. 3d., this produces nearly £10,000,000.

As regards the increased weight of the fleeces, in 1800 Mr. W. Nottage, of Bermondsey, fellmonger, ascertained that Southdown sheep, when slaughtered at full maturity in London, produced about 3½lbs. of wool per skin. Thirty years afterwards

he found that they yielded from 4 to 4½lbs., and that this has still farther increased of late years.

I trace these very important and interesting statistical facts with the more pleasure, because I feel that happily my countrymen possess, in their sheep farming, one branch of the profession of agriculture which well rewards them for their skill and energy. Fortunately, too, there are as yet no symptoms of the flocks of England being exhausted in their produce, or deteriorated in value; but, on the contrary, there is yearly to be found in our island more numerous, and more productive flocks; and in support of these a larger, a better paid, and consequently better fed and warmer clad population. Happily too for our country, whilst the demand for woollens and mutton has thus largely increased, foreign importations, however considerable, have failed to diminish their market value.

THE ADMINISTRATIVE OF THE ROYAL AGRICULTURAL SOCIETY.

On the very eve of the great Meeting of the year, the Council of the Royal Agricultural Society have determined on the dismissal of their most responsible officer. It is very evident, from the Special Councils called and the several reports received, that the administration has of late had a difficulty to deal with. The public, or the general body of members, have had no information whatever as to the nature of this, but rumour has of course been busy enough. The step, indeed, resolved upon at the last Special Meeting, was so far expected, that for the last few weeks it was impossible to enter any company of agriculturists, but you heard of some one or another who was canvassing for the appointment of Secretary. It is as well, perhaps, that the Council have now put this matter beyond a doubt, as all will at least have a chance to start fair. Hitherto "the best informed" have had a somewhat undue advantage; but with this formal announcement that the office is vacant, we are sure to have many more Richards in the field.

With so good a locum tenens, however, as Mr. Brandreth Gibbs, the Council appear inclined to be anything but precipitate. A Committee has been appointed "to take into consideration and report to the next General Council what in their opinion should be the general and particular duties of the Secretary, and the mode of his appointment." This Meeting will be on the 6th of July, as the first Wednesday in the month. So far as it goes nothing can be better than this. We may reasonably assume there has hitherto been something wrong as to the interpretation of such duties. The powers invested in the appointment may have been too great. Undue license may have been allowed, or opportunities existed that no man should have been tried against. It is a great principle in the commercial character of this country that in the conduct of any public business, more particularly, no one is altogether beyond control. It would be alike unfair to him and to others that he should be invested with any such undivided responsibility. As a consequence we see the several parts of the machinery each more or less dependent on the other for the safety and regularity of its action. There are none going too fast, for the one holds his fellow in continual check. The Secretary looks to the Board, and the Board in turn has to invite the scrutiny of the common body of shareholders, subscribers, members, or by whatever name they have

an interest in the undertaking. Of course, if any neglect their duties, it must be in some degree at least at their own peril and cost. If the Committee permit the Secretary to do too much or too little, they have to answer for it at the next General Meeting; while if the great majority of members are easy enough to let the Committee and the Secretary do pretty much as they please, who have they to blame but themselves when the concern comes to grief?

The administration of the Royal Agricultural Society is coming to be judged a good deal in this wise. Is it fair to put quite all the blame upon one man? Are there not others remarkable for the participation they take in the affairs of the Society, who have neglected their duties? A City man once said he could always tell how a Company was going on by the way the shareholders spoke of the Secretary. If it was prospering he was "rather a keen sharp fellow." On the other hand, if the speculation did not answer so well as had been anticipated, the same official was sure to be "the biggest fool alive." From what we are forced to hear on all sides, the same kind of convenient argument will hardly tell in this case. Some of the members of the Council themselves declare that their business is seriously impeded by the injudicious interference and exclusive lead taken by one or two of their fellows in the administration. It is but natural to look directly to these, as everybody does, for some solution of this present "difficulty." Have they, when taking upon themselves these responsibilities, associated with all this power and position anything like proportionate care and vigilance in the discharge of such functions? If the business of the Society has been mismanaged, it has not been by any one man. It should have been out of his power to do so. And we are only giving expression to the common opinion now abroad, that it is not one man alone who is upon his trial.

In fact, the Committee appointed, consisting of the President, Vice-Presidents, Trustees, the Honourable Colonel Hood and Messrs. Barnett, Jonas Webb, Wren Hoskyns, Torr, Fisher Hobbs, Milward, Brandreth Gibbs, Amos, and Brandreth, have something more to do than defining the duties of the Secretary. It is utterly impossible for them to even attempt this without going further. They must also define the duties of the Finance Committee and of the Auditors, without

they are willing to take the onus of these appointments generally upon themselves. And, moreover, when they are looking out for a fit Secretary, they must see whether they have a fit Finance Committee, and properly qualified Auditors. "John," said the Squire, who hunted his own pack, to his drunken aid-de-camp; "John, I can stand this no longer; and I shall get a new whipper-in." "Very well," hiccupped out John, in answer, "and if you was to look out for a new huntsman at the same time, it would be quite as well for the hounds." The Auditors are elected, or re-elected at open Meetings of the Society. So far so good. But who re-elect, and when do they re-elect the Finance Committee? One member of this Committee, we hear, has already resigned, and it would be but a graceful act on the part of his fellows that they should follow an example so honourably set them. Of course they could offer themselves for re-election.

In speaking thus out, we must be understood as not merely offering our own opinions on a delicate and painful matter. We are the rather but embodying the common talk of the country, and it has only become a question as to who shall speak first? Wherever we go, we hear the same complaint, not only from the members generally, but, we repeat, from the members of Council themselves. The deduction to be drawn from all this is in the hands of the Committee. In common parlance, they have "a duty to perform," and they know what that duty is, quite as well as we could tell them. Moreover, the whole country knows it too. There has been something seriously wrong in the finances of the Society. What can the Finance Committee have been about? The significant response of one member of it is, that he withdraws from such a duty. But why should he thus invidiously stand alone?

THE CONDITIONS OF STOCK SHOWS, AND THE CONDITION OF THE STOCK.

At the meeting of the Kirrier Agricultural Society, held at Helston, on Tuesday, June 23, Mr. ROSEWARNE, one of the judges, said, he had certainly seen many better shows than the show of that day. There was one regulation adopted by the society which would account for this circumstance. The male animals that carried away prizes at one year's show were excluded from competing for prizes at the succeeding years' exhibitions, and thus they kept the best stock away, and only obtained a second class of animals. If the society were to offer sweepstakes for the best classes of animals, these would be sent into the field, and they would thus have an opportunity of comparing them, and those sent for competition for prizes, and of ascertaining the progress they had made. If, however, the society only obtained a second class of animals for exhibition, persons visiting the show yard would run away with the impression that they were the best that could be produced in the district, whereas he had no doubt that many better animals could have been shown than had been exhibited that day. In his opinion, as long as an animal continued to be the best of his class, and was capable of working, he ought not to be excluded from competition, but should be allowed an opportunity of maintaining his position.

Mr. PERMEWAN also responded. One of the objects of the society was to promote the laying on of fat by animals in the proper places. It was no use laying on great lumps of fat in one place and none in another, for nothing could be worse than great flabby animals. What they desired was to see the fat laid on regularly all over, so that whether a man was poor or rich, he should, when he bought a piece of meat, obtain a fair proportion of fat and lean.

Mr. H. ROWE was likewise called upon to reply. He said, The sheep were all very fine, and exhibited a marked advance on previous years. The increase in the size of the animals was remarkable, at the same time there was not so much flabby fat, which was the most unsaleable part of a sheep, and was profitable neither to the seller nor the buyer. He was decidedly of opinion that sheep were generally too fat in particular parts, and that leaner mutton would be found preferable in the market, and that it would pay the farmer better and have a better sale. People liked a good leg of mutton with a proper quantity of fat on it, but they did not like mutton with large lumps of fat which they could not eat.

Mr. THOMAS said, one of the rams shown was certainly very large, but he was overburdened with fat. It had been said that fat was a disease and introduced disease into a flock, and for his own part he had discouraged too much fat in animals on all occasions.

Mr. J. THOMAS, as one of the successful competitors, responded. Mr. Rosewarne seemed to find fault with the regulation which precluded the male animals from contending for prizes the year after they had gained them, and thought that they ought to be permitted to contend until they were beaten;

but it was thought that when an animal had got to the top of the tree he ought to give way to others; as, if he were allowed to compete, it might prevent others from exhibiting.

Mr. J. TYACKS, in responding, said that he perfectly concurred in the remarks of Mr. Rosewarne as to the propriety of giving prizes to animals so long as they deserved them; as he considered that they should adopt the same principle in this respect that was followed in the case of wrestling—so long as a man continued to prove himself the best wrestler, he carried away the prize. Perhaps in the case of female animals an exception might be made to this rule.

Mr. JAMES LEMON was opposed to prizes being given to male animals more than once, and having now a county show, he thought the prizes ought to be confined to animals belonging to persons resident within the Kirrier district.

Mr. ROSEYEAR ROSEWARNE said, all the speakers agreed that the mutton now sent to market was too fat, and he concurred in that opinion, and that it was important they should endeavour to produce better mutton than at present. It could be accomplished, and it would be for the advantage of agriculture to adopt another plan as regarded their sheep. He thought that the society ought to award prizes of sufficient amount to stimulate the implement makers in that neighbourhood to produce the very best implements in their power. Wherever they went they heard complaints of the deficiency of labour; but for his own part he thought the great difficulty arose, not so much from a deficiency as to numbers, as to want of skill and ability on the part of the labourers. He thought, therefore, that they should endeavour to promote the manufacture of implements so as to decrease the amount of manual labour as much as possible. The wages paid to labourers were now nearly one-third higher than some years ago, and a farmer, holding, say, 120 acres of land, instead of being able now to manage his farm with four men, was compelled to employ six men. Recurring again to the question of fat, he said it was rather anomalous that although they all admitted the disadvantage of having an animal too fat, yet unless animals were fat when exhibited at these shows, they would not obtain prizes.

Mr. ROUS FENDER said, with respect to the question of fat, farmers could not now keep their sheep two or three years, as was once done, to feed them into mutton, but they must force the animals, and the tendency of all young animals under such a system of treatment was to make fat, and it should not be forgotten that poor people found fat very useful, making it up into their pie-crusts, and using it with their other food.

Mr. J. N. R. MILLETT thought that it was a great mistake to refuse to allow an animal to compete after it had won a prize one year. What he should say was, allow that animal to compete, keep it constantly before them, and then let them try their utmost to beat it.

THE PRACTICABILITY AND ADVANTAGE OF FARM LEASES.

At a recent meeting of the Newcastle-on-Tyne Farmers' Club, Mr. M. Dunn read the following paper:

It may, at first sight, appear a work of supererogation for a person who has not, practically or scientifically, devoted his time to acquire knowledge upon agriculture, to attempt to place before a society, consisting of land agents, country gentlemen, practical agriculturists, and other intelligent members of the Farmers' Club, remarks upon so important a subject as that which forms the title of this paper. My apology is, that having, during an extended professional mining practice in England, Scotland, and Ireland, been made conversant with the principles of mining leases, I have, at the same time, directed considerable attention to the various customs regarding the tenure, letting, and management of lands. I have heard and seen much of the misery and ruinous state of agriculture in Ireland, which has so often engaged the attention of Parliament, in the demands for redress and tenants' compensation, and hitherto without effect. I have witnessed the super-excellent condition of the cultivation in Scotland, under the prevailing custom of nineteen years' leases, and I am constantly witnessing the evil effects upon districts where leases are not granted, and where the tenancies are from year to year, or what is much the same, for short terms of agreement. I particularly allude to corn farms. I am constantly hearing it asserted and determined by farmers' clubs that the most advantageous state of the land, both for landlord, tenant, and the public, and for the obtaining the greatest amount of produce from the soil, is that farms should be held on permanent leases for fifteen or twenty years' duration; the object to be attained by such lease being that the farmer will freely spend his capital, labour, and skill upon the presumption (should he so long live) that they will produce advantages to himself and family, whilst the estate of the landlord will participate in the advantages.

Mr. Trotter, a tenant farmer of West Lothian, reporting to the Board of Agriculture, says—"That a practice has crept in of letting land on leases from nine to eleven years," which he calls a very absurd and pernicious system. "No tenant will lay out much in the improvement of a farm let on so short a lease: the land will be deteriorated, the tenant will reap no benefit from the bargain, the rent will ultimately be diminished to the proprietor, and in the end the public too must suffer their share of the evil." Mr. Trotter also recommends that treaties for renewal should be entered into three or five years before the old term expires, they tending to keep agriculture in an even undisturbed progress. Mr. Trotter deprecates the aim at a great rental rather than good improving tenants. The tenant oppressed with heavy rent fails, law proceedings ensue, he

is ruined; but, in the meantime, the property is damaged. Assuming such to be the fact, I have frequently raised the question amongst intelligent persons as to the cause of such arrangements being so generally wanted throughout this district, and as yet have scarcely ever received a lucid answer. This, therefore, is the first point to which my attention has been directed, viz., the apparent difficulty in laying down such principles as will be agreeable to both landlord and tenant, which, with great deference, I enumerate as follow:

1. The difficulty of establishing a fixed rent for so long a period as 15 or 20 years, during the ever-varying state of labour and the value of produce, and this was especially difficult previous to the abrogation of the Corn Laws, during which both landlords and tenants were under constant dread of the result of a relaxation of the import duty, and consequent importation and fall in the price of grain; therefore, in the absence of some compensating medium tenant-right or safeguard, the risk to a tenant would be so extreme that the result need not be wondered at.

2. The absence of a provision for enabling a tenant not only to quit at certain appointed periods, or to alienate his lease in case of death or other circumstance, first offering it to the landlord under tenant-right compensation, so as to realize any improved value that his capital and industry may have produced. For instance, the tenant dies during the currency of his lease, without leaving a family who can properly carry on the necessary works of the farm; whilst the executors would not be justified by the Court of Chancery in risking the results, or doing so on their own responsibility. But whilst a responsible neighbour would purchase the lease from the family, he cannot without the consent of the landlord, who by this time can let the farm for an increased rent.

Upon the subject of terminating the lease, I find that many intelligent persons, land-agents and otherwise, conceive it highly unreasonable that the tenant shall have the power at certain periods to quit the landlord, unless the landlord have a corresponding power to quit the tenant. Now such a clause as this would, in my opinion, negative justice, and strike at the root of all improvement to arise from a lease. The clause in favour of the tenant would remain a dead letter so long as the holding of the farm was profitable to him. Whereas the landlord might have an obvious advantage in demanding an increased rent, under pain of a notice to quit. Without any power of terminating the lease, the landlord is satisfied to receive the agreed rent during the whole term; and should not, I submit, object to the tenant possessing the power of quitting, under circumstances which would call for a reduction of rent or a return of per cent., when imperatively demanded; for a tenant, pressed by circumstances of loss, and not allowed to quit, would obviously be an unprofitable tenant, in-

asmuch as he would cease to work and improve the farm as he ought to do. With the loss of production in mining leases, the power of quitting on the part of the tenant only is all but universal, and also of disposing of his lease; and I submit that the comparison is not out of course, for the meaning of a lease is the inducement to expend capital. At the same time there is a great distinction to be made between a tract of land to be brought from a state of nature, like bogs or moors for Ireland, and a farm in a high state of cultivation, when entered upon with suitable buildings and appendages.

A standing objection to the principle of disposing of a lease is, that the landlord must and will have the choice of the tenant; inasmuch as the purchaser of said lease may, in many respects, be an objectionable neighbour—may not be so moral as he ought to be, &c., &c. Now, how does the landlord guard himself in respect of the executors and administrators of a family, upon the demise of the tenant, where the lease devolves upon the child or children or widow, who necessarily call in some friend or agent to manage? It is not fairly assumed that, in case of a sale, the wishes of the landlord would be disregarded in respect to the purchaser; but rather that the family would see their object in acceding to the wishes of the landlord, especially if he had been kind and considerate to the deceased.

In many cases a compensating medium is adverted to by a sliding scale, founded upon the rise and fall in the market of the chief produce of the land*—for instance, wheat and oats; and although such an application cannot be made entirely to meet every contingency, yet it may be made to supply a certain quota, amounting to a sort of return, such as landlords are wont to give when their tenants are very clamorous. The difference between the two systems being, that in one case the tenant acquires the reduction as a right, whereas in the other case he has to entreat it from his landlord or his agent

* Such I understand to form the basis of the farm leases of his Grace the Duke of Portland upon the Bothal estate, the particulars of which have been transmitted to me by one of the tenants, as follows:

"Scale of reductions for calculating his Grace the Duke of Portland's rents, in Bothal Barony, commencing 18th of May, 1832. _____ Farm.

"The rent of your farm is fixed to be £274 per annum, when the average price of wheat in Newcastle market is 7s. 6d. per bushel, and

When wheat is at 7s. 3d.	{ per bushel, every £10 of	9 16 8
"	{ rent will be reduced to }	
" 7s. 0d.	" "	9 13 4
" 6s. 9d.	" "	9 10 0
" 6s. 6d.	" "	9 6 8
" 6s. 3d.	" "	9 3 4
" 6s. 0d.	" "	9 0 0
" 5s. 9d.	" "	8 16 8
" 5s. 6d.	" "	8 13 4
" 5s. 3d.	" "	8 10 0
" 5s. 0d.	" "	8 6 8

"NOTE.—A few days after the passing of the Corn Bill, the Duke gave directions for the above reductions to be doubled and which has continued ever since.

"If the average price of wheat advances above 7s. 6d. per bushel, the rent shall not advance higher; and if the average price of wheat falls below 5s. per bushel, the rent shall not be any further reduced. These regulations to continue for the term of your agreement, unless any material change takes place in the currency.

"The Duke's rents for one quarter were received at Mor-

as a favour, and that after repeated applications and delays, during which the tenant's resources become exhausted, and his spirit broken. It has been suggested that instead of the tenant being allowed to dispose of his lease to a third party, that he should be allowed to quit at certain appointed periods, and should receive from his landlord the value of his improvements expended upon extraordinary outlay, on the principle of tenant-right. Now, if this were admitted, it would be difficult to make a distinguishing valuation of outlay in connection with the change of times, whereas a purchaser would simply take into consideration the rent value of the land, and apportion the premium accordingly. In case of alienation under a premium, not only would the purchaser be shown to be a substantial man, but the vendor might be held liable still for the fulfilment of the conditions of the lease.

I submit that by no other means than such as I have enumerated can a tenant ensure for his family, in case of death, a value for the improvements which he has established; for it is a very small favour to allow a widow simply to quit the farm, and leave the improved value to be reaped by the landlord or her successors.

This is the grand bone of contention in the sister-country, and which has so often, and is again to engage Parliament in endeavouring to pass a Tenant Right Bill: one party will not deal with it retrospectively, whilst the others demand a review of the circumstances from the commencement of the tenancy in existing leases. I grant that the case is widely different in this country, but it is well to bring such facts under review.

For instance, Pat Ryan's grandfather betook himself to one of the bogs, from which he was permitted, with or without a lease, but under an implied engagement, as the case might be, to enclose, with earthen mounds, a few acres. To cultivate this estate by spade husbandry, he must drain it—level it; he must also build himself a mud cabin, and there he labours to rear a family. But in the course of years this little farm improves in value, and the landlord or his agent, or the landlord's mortgagees, come in; or the lease begins to run out. So in either case, in an unlucky moment, Pat is ordered to pay a large increased rent, or to quit; and in case of hesitation, his mud cabin is tumbled, and his family driven out to starve or to emigrate. He sets up a demand for compensation, viz., tenant-right; but no such bill has yet passed, and he must submit to see his little farm pass into the hands of a neighbour, or, may be, some adventurous Englishman, who has purchased or leased a whole district; and need it be wondered at, that the poor man or his son, in their desperation, take law into their own hands, and commit some desperate deed?

Another case, which appeared in the *Daily News* of January 21, 1859, is that of a Catholic clergyman, who expended upwards of £400 on a building and improving a piece of land, under the promise of a lease from the proprietor; but before such lease was accomplished the

peth on Wednesday, the 16th February, 1859. Reduction of rents, as per scale, and average for the quarter, 30½ per cent."

I am also happy in being able to quote the Hon. President of the club as a leading example in providing a proper system of apportioning rent, Digitized by Google

landlord died, and his son and heir refused to acknowledge the agreement, but served a notice to quit, without compensation. An action was brought, and the plaintiff was nonsuited at law. An appeal was made to the Irish Court of Chancery, but was again dismissed. The defendant demanded costs, instead of which the Lord Chancellor pronounced a heavy condemnation for the disgraceful conduct of the proprietor. Since then the case has been discussed in the House of Commons, and has had the effect upon Major Burke, the proprietor, of inducing him to offer the priest a lease for his life, which offer has been rejected.

In this country the landlord's capital is very properly expended in the stamina of the farms—viz., buildings, fencing, roads, drains, &c.; the duty of the tenant is to handle and improve.

Upon this important subject, of the power of the tenant to alienate his lease, I take leave to extract a passage from the report of the late Robert Somerville, surgeon, Haddington, who was appointed by the East Lothian Board of Agriculture and Internal Improvement, so far back as 1813, to report to the Board on the state of agriculture in East Lothian.

Under the head of Obstacles to Improvement, p. 255, Mr. Somerville says :

"It may be laid down as a principle, that whatever deters the tenant from laying out his capital, operates as an obstacle to the improvement of the soil.

"One of the first and greatest obstacles is, that the farmer has no power to dispose of his lease, or of re-letting.

"On abstract principles, nothing appears more absurd or unjust. A shopkeeper may let his shop, deliver over his goods to his successor, and take a sum of money for giving up an established business. Why should not the farmer possess the same privilege?

"There are three very supposable cases, in which it would be clearly for the interest of the farmers that leases were subject to the same laws as other property, in case of a tenant wishing to transfer his lease to another. His becoming bankrupt, or his dying without an heir capable of managing a farm, or being desirous of engaging in such pursuits.

"The farmer may be desirous of withdrawing his capital, for the purpose of employing it on some other place, holding out encouragement for improving: He may find the farm unprofitable and above his means, and wish to give it up rather than be ruined; in which case it would be desirable that he dispose of his lease rather than be at the mercy of the landlord.

"It is nothing to the purpose to allege that proprietors will seldom withhold their consent. But why should the landlords maintain a power which may be abused? Now, it is certain that, if circumstances put a check upon the tenant disposing of his interest, the same circumstances will prevent him saying it out. In case of having full power to dispose of his lease, he would consider all money laid out on improvement as put out to interest.

"Supposing a farmer to become bankrupt, it is neither just nor reasonable that his creditors should be prevented from disposing of his lease—thus they might be deprived of benefits effected, in a great measure, with their own money. With such a privilege reserved, a farmer might raise money to carry out his improvements.

"It often happens that a farmer, at his death, leaves a number of children, whose principal support is to be derived from his lease. While none of them can direct the affairs of a farm, they could adopt no plan so profitable as selling the lease; whereas, their only resource against beggary is to throw up the lease from which they were taught to expect much benefit. The widow is unable to carry it on; but a proper person might take it, and give them a consideration yearly, or otherwise. Besides, he might prefer another member of his family as his successor, to his heir-at-law.

"In all these supposable cases it is plain that the tenant's interest and comfort would be greatly promoted by the privilege of disposing of his interest in a similar manner as a merchant is entitled to do with his brewery or his manufactory; otherwise you reduce the tenant, in a great measure, to the condition of a tenant-at-will or life-renter. Whatever is injurious to the tenant must operate against the landlord and ultimately against the country.

"The idea is as unjust as it is illiberal that the interests of the landlord and the tenant are necessarily at variance. But if the landlord by excessive rent or severe restrictions cramp the tenant in his improvements, such system must prevent the amelioration of his property. In reality the ultimate object of both landlord and tenant is to bring the soil to the highest possible state of fertility, and it must be acknowledged that the only way to accomplish this is to encourage the husbandman to exert all his skill and employ all his capital.

"The one thing needful is to give leases of sufficient length, containing proper clauses, for protecting his property during the last three or four years: the rest may be safely left to the industry of the tenants, prompted by their own interests; and in selling the lease, the landlord is furnished with an additional security for the payment of his rent, for his security cannot in any respect be lessened by the intervention of another party to the agreement.

"It may be affirmed with confidence, then, that the law which hinders a tenant from disposing of his lease, like any other piece of property, is extremely injurious to the interests of agriculture, is the greatest obstacle to improvement, and consequently injurious to the permanent interests of the proprietor, as well as restricting the production of food. Nothing can appear more harmless than binding the tenant to labour according to the rules of good husbandry—which must mean the best management according to its circumstances, and of that he ought to be the best judge. But if a landlord conceives a dislike to his tenant, or imagines that he is not managing properly, the rules of good husbandry, in the absence of power of reference, afford him grounds for litigation. The laws of entail may be regarded as opposing obstacles to improvement, but which operate more against the landlord than the tenant. The general practice of letting farms by proposal to the highest bidder, by advertising when the lease is within a short period of expiring, is pronounced as illiberal. Rather, should not the proprietor set a value upon his land, giving the first offer to the present tenant, instead of telling him he does not mean to treat with him? Of course the exception holds as against a bad farmer. In short, everything that tends to discourage the profession of a farmer, to embarrass his exertions, diminish his fair profits, or lessen his assurance of reaping the full benefit of his labour and capital, must be regarded as hostile to improvement in agriculture. Everything of this nature must tend to divert capital from the cultivation of the soil, and throw it into other channels."

It is very amusing to observe how cautiously landlords and great agricultural agents approach the subject of a just and practical lease. I just give two recent examples.

Lord Wodehouse, at the agricultural society at North Walsham, as published in the *Economist* of November 13, 1858, thus expresses himself:—

"It was exceedingly important that landlords and tenants should duly appreciate their mutual relations in what manner they can best walk in unison. The landlords are commonly conscious that their schemes of management will not bear public discussion. The landlord should do his part, and then the tenant would be better able to do his. It often happened that the landlord, not having done his part, complained that the tenant had failed to do his. This is the ordinary cause of the bad farming that prevailed in England. The result of liberal landlordism was specially exemplified on the estates of Mr. Coke. The landlords of our day possess great advantages over those of former times, in the capability of borrowing money for draining and other improvements. Long leases were a great excitement to good farming, which may often be carried out advantageously without any reduction of rent. Bad farming is the natural result of yearly tenancies, and neglectful landlords, especially where tenants do not

possess adequate capital, necessarily produce bad farming and where capital is insufficient, farms should be reduced in size. However, long leases ought to be the basis. He, Lord Wodehouse, had tried much the construction of a satisfactory lease, and found it a very difficult task. Too stringent covenants ought not to be imposed upon good tenants. Agriculture, in these days, should not be kept in leading strings."

If Lord Wodehouse's example was followed by landlords these meetings would effect great good, and would produce practical results in the improvement of English farming.

Lord Wodehouse broadly proclaims in favour of long leases, and expresses his opinion as to why leases are not prevalent, setting the blame chiefly upon the landlord or his agents; and yet Lord Wodehouse finished by declaring that the formation of a just and improving lease is above his power of composition; or, in other words, he is afraid of yielding up the prescriptive power of the landlord in favour of fair and legitimate defences to the tenant.

The other example I will cite is contained in the answer of Mr. Hewitt Davis, London (great authority), to certain queries on the state of agriculture propounded by the French Government, which answers are, I find, endorsed by certain land-agents who assume great practical knowledge.

In answer to question 6: "Has the rent of land risen or fallen since the repeal of the Corn Laws? Answer—When a change of tenant has taken place, advantage has often been taken to further increase the rent."

"Query 8. State what are the conditions of letting most in use, and what is the usual terms of the leases? Answer—In the absence of any improvement to the farms and cultivation, the tenants have had nothing to set against the fall in the prices of corn, but the economy of their expenditure. In the ten years previous to 1847, the price of wheat averaged 59.99 s. per qr.; for the ten years since, the price only averaged 54.16 s. The condition of farm lettings vary considerably. They are often insufficiently liberal to encourage good farming, and leases are rarely given. The general occupation of land in England is still on agreements from year to year, although the desire for long leases, say for twenty-one years, on the part of tenants, has increased. The following conditions of letting, which are used by me, are customary, and may be considered as unobjectionable to the tenants, and yet protective of the landlords' interests. Amongst others, not to break up grass land; not to have more than three-fifths of the arable land in corn during one year; not to sell off any hay, roots, straw, or fodder, but to consume the whole upon the farm. The landlord reserves a right of entry for breach of covenant, or on the tenant becoming involved, or absenting himself, &c."

The purport, therefore, of this gentleman's evidence, with regard to the improvement of the resources of the country, may be summed up as follows:—

First, that the price of corn has been progressively decreasing for the last eleven years; and that the farmers have nothing to set against such fall of price—together with the constant increase of rents—but the economy of their expenditure. Further, that the lettings are not sufficiently liberal to encourage good farming; and that leases are rarely given, but mostly held from year to year, although the desire for leases of twenty-one years has increased on the part of farmers.

The writer gives an example of his conditions of letting, which he thinks unobjectionable to the tenants, and sufficiently protective to the landlords, which of

course is matter of agreement. But he does not touch at all upon the chief features of a lease which would be sufficiently liberal to induce landlord and tenant to unite the important and equitable principle being involved as to—

Right of the tenant to terminate the lease at certain given periods, although the landlord may be bound for the whole term.

Right of disposing of said lease, after his capital and industry may have worked it into a premium, or tenant-right. The introduction of a species of *ad valorem* rent to meet the average prices of corn from time to time.

Reference in case of dispute or difference, &c.

It is difficult to account for this shyness upon the subject of a fair and equitable principle, rather than adhere to the one-sided antiquated conditions which evidently discourage tenancies for terms of years, and consequently fetter improvement; for, as Mr. Davis says, an increased rent is demanded at each change of tenant.

During the month of November I visited a very extensive farmer in the county of Northumberland, and there met with an impressive corroboration of my principle of refusing to the landlord the reciprocal clause of breaking the lease as demanded by the tenant.

The gentleman had taken a lease for twenty-one years, but containing a clause to determine it at the end of seven years. Whilst demanding this the agent of the landlord insisted as justice that the landlord should possess the same power. The tenant pleaded against such a power being retained, especially as it was contemplated to drain and improve extensively. The agent was imperative; and therefore, rather than lose the farm, the tenant yielded and the clause was inserted.

Improvements of a most extensive nature were immediately put in motion, and of course the value of the farm greatly enhanced. It so happened that a short time before my visit the period of seven years had arrived, and also the death of the proprietor had taken place. So great trepidation was felt that a notice would be given on the part of the landlord; which, however, did not take place, but which might have been induced even by the death of the landlord. Now, I submit that the above fact is conclusive that it is highly unjust for a landlord to reserve the power demanded for the tenant, the object of a long lease being to accumulate increased value by means of the capital and industry of the tenant, without danger of intervention from the landlord.

In acknowledgment of the general principle of tenant right as adjudicated by Justices Coleridge and Erle, in *Mousley v. Ludlam* ("Dixon's Law of the Farm," p. 233), their lordships held that it is not an unreasonable custom that a tenant, who is bound to use and cultivate his farm according to the rules of good husbandry and the custom of the country, should be entitled, on quitting, to charge the landlord with a certain portion of the expense of the necessary drainage done without his consent or knowledge. This was a county-court action to recover £50 from the landlord for having given up to him his farm at his request, with the appurtenances, &c., including work done, manure, soughing tiles, &c. The plaintiff had been a yearly tenant on the condition that he should use the farm in a good and tenantable manner

according to the rules of good husbandry and the custom of the country; and the valuation of his tenant-right included charges under each of the above heads. For draining, what had been done during two years, he charged five-sevenths of the cost; and that which had been done one year, with six-sevenths—done without the defendant's consent. No question was raised as to the propriety of the drainage; the defendant merely objected because it had been done without his consent. The jury found him in damages, upon the ground that the drainage was according to the rules of good husbandry. Justice Erle added—"I think that the finding of the jury means that drainage must be according to the rules of good husbandry. If a tenant contracts to hold according to the custom of the country, the usage of the country becomes part of the contract. It would not be an unreasonable contract that the tenant should put in such drainage as was necessary, and that the landlord should pay a portion of the expense. If it be not unreasonable as a contract, I do not see how it is unreasonable as a custom." The appeal by the landlord was dismissed, with costs.

In mining leases the boon of quitting and alienating wholly or in part is accorded to the lessee because of the uncertainty of the various circumstances of the case, otherwise no mining companies would exist; the shares are bought and sold in the public markets, the landlord being satisfied with the bringing in of new capital, and the power reserved of enforcing the conditions of the lease; and it is not fair to assume that the contingencies belonging to the carrying out of a farm lease are not also subject to great, and in many cases fatal, casualties, for neither crops nor markets can be ensured; the storms of the ocean may be ensured against, but not so the land hurricane, the murrain of cattle, the insect that devours the turnips, and many other incidental drawbacks which mar profit and dispirit the adventurer. Many persons are content to farm without leases under certain landlords, because of their high and liberal character; but these are exceptional cases, and ought not to be brought into consideration in dealing with a farm lease, which ought to be dealt with like any other mercantile transaction, viz., to possess a written binding document, which will come forth when one or other of the parties are no more. Another exception may be made in cases of political consideration, but this I exclude from the argument. Without, therefore, some compensating medium during the currency of the lease in case of quitting prematurely, the asking of favours from the landlord is often unsuccessful, and always humiliating; whilst it is also difficult for the landlord to lay down a just and satisfactory principle suitable for every case.

In Tighes' "Statistical Survey of Kilkenny," he gives the chief clauses of farm leases under Lord Besborough, one of the largest landowners of the county—"Term 31 years certain, or three lives."

One clause runs as follows:—"That it may be lawful for the tenant at any time to sell and alienate in the whole every part of his estate and interest in the premises, so that the landlord may have in his room one

single tenant to charge with reserved rent, but provides against subdividing the farm into small holdings."

"In Clare few leases are let without a clause of surrender, especially those of grazing farms, to guard against injury by a fall in the price of cattle; and in consequence of the extraordinary fall in the price, many persons availed themselves of this clause."

The following extract from the *Economist*, of Feb. 12, is much to the point:—

"Dependent tenants and low rents are inseparable evils, injurious alike to landlords, tenants, labourers, husbandry, and the community, which no one can honestly deny, yet we have 19-20ths of English landed property farmed by yearly tenants."

"What is really wanted is, that landlords and farmers should frame their contracts on purely commercial principles. They want no ties—no patronage on the one hand, or subservience on the other. Each party should fairly and honestly seek to do the best he can for his own interest. The one to obtain the highest rent, the other to make such stipulations as will enable him to use the land with the utmost advantage."

"Tenants should be made more independent than at present. Land can only be made profitable by the operations of tenants."

"A while ago Sir W. E. Foulkes, in Norfolk, was presented with his portrait by his tenants, Mr. Coe being spokesman. He congratulated the parties as having descended from a long period as yearly tenants, &c."

"Now, this is the language of dependants—as upper servants, rather than intelligent tradesmen, carrying on an arduous and commercial undertaking. The Norfolk tenants must be either behind their brethren, or they professed their gratitude as a compliment."

"Sir William, in reply, said that he had held the property thirty-seven years, during which period he has had no steward, and has hardly employed an attorney, an officer, or land-surveyor."

"Such feeling may grow up between the landlord and his tenant altogether independent of a good or bad system of management; but in this thirty-seven years, perhaps greater changes have taken place in farming than in any thing else."

"If you were to farm as your grandfathers did," said Sir William, "you could not afford to pay the rents you do."

"But all this falls short of the exigencies of the times. It places the safety of the tenants on the life and personal character of the landlord. Sir William's successor may be the very opposite character—a game preserver, a spendthrift, a political or religious bigot, &c. It is not impossible that he may find, that, under the easy rule of Sir W. Foulkes, the rents are low, and the farming not first-rate; that he may raise his rents, and impose stringent regulations, from none of which evils have the yearly tenantry the slightest safeguard. We may be assured, at the present day, that improvement and profit to tenants, and increasing and even sustained rents to landlords, can only be obtained by such change as will secure the capital and profits of tenants. Long and rational leases can alone afford such security."

Having in the previous pages enumerated the difficulties which occur to me as intervening to prevent fair and durable leases between landlord and tenant, as exemplified by the general absence of such throughout many parts of England, I will with great deference submit for the consideration of the club the basis of a lease, calculated to secure to the landlord his proper quota of rent, viz., a fair proportion of the amount value of the produce; whilst it also would defend the tenant from the evil consequences arising from the fall of prices, &c., as hereinbefore enumerated.

The general principle is illustrated in mining leases, where the produce and value are altogether uncertain, viz., that the landlord reserves for himself 1-6th or 1-8th of the value, whether paid in kind or in money value; the same principle applies to tithes in kind. The

question, therefore arises, Cannot some similar principle be made applicable to farm leases? Although this is the acknowledged basis of mine rent, it is often found more convenient to commute it for a certain tonnage; for the principle cannot be carried out unless some standard of value can be laid hold of, and this is not practical in case of indirect selling in distant markets.

If a code of this sort can be hit upon, then I humbly submit that it would tend to elevate the position of the tenant above that to which he is driven in the casual and perpetually recurring application to the landlord or his agent for a return of 10 or 15 per cent.

It occurs to me, therefore, that the authentic fact of average prices in the different markets ought to form the grand basis for such a structure as I have taken the liberty to suggest; but professing myself unequal to the task of assigning the details, I leave the matter in the hands of the Club, trusting that they may see it worthy the consideration of a special committee of their body to scrutinize and report.

SUGGESTED BASIS FOR A PERMANENT LEASE.

1. Term, 15 and 20 years to A B, his executors, administrators, and assigns.
2. Power for tenant to quit or alienate the lease at every years (varying according to the scheme of husbandry adopted) by giving six or twelve months' notice in writing, and having complied with all the obligations of the lease: time of quitting to be May.
3. In case of death or otherwise, the representatives of the tenant, before offering the lease for sale, to offer it first to the landlord, at a price, if necessary, to be fixed by disinterested referees, and also to receive from the landlord such compensation, for added value, or unexhausted improvements, as may be fixed by indifferent valuers, the grounds of such claim to be specified in the agreement.
4. The general principles of managing the farm of course to be laid down specifically, and the usual remedies for the landlord reserved.
5. As the rent (corn farm) is assumed to be founded chiefly upon the average price of wheat and oats, the averages to be procured from a certain market upon which the certain rent is first fixed. But in case such averages should be found to fall, then for every per boll reduced value a diminution shall take place in the rental of per cent.—and also that a corresponding ratio should also hold in favour of the landlord. The principle of a corn rent is so little practised, and I may add so little understood, that I am willing to waive that part of the subject, because, if the landlord and tenant agree in preferring a certain annual rent, it does not affect the other material points in the case. The observation of certain intelligent land-agents is, that such clauses as here suggested would negative the very existence of the lease; but that I deny, the principal object being to divest it as much as possible of ruinous variation, for which the capital of the tenant is not prepared, it being specially the business of the corn-merchant to buy at market price, and hold upon the speculation for a rise.
6. Lease to have a general clause of reference to settle

disputes which may arise during the currency of the lease.

I shall now conclude with apologizing for presuming to undertake a subject which many will, I doubt not, think foreign to my pursuits; but my object will be gained if I have succeeded in placing the matter in such an intelligent light before the Farmers' Club as to induce a full and free discussion, which will elicit practical opinions and suggestions, which may gradually induce liberal-minded men to disregard antiquated customs, and adopt principles conformable with our enlightened times, and with justice.

The CHAIRMAN (Mr. W. Stephenson) hoped there would be a spirited discussion on the subject which Mr. Dunn had so ably introduced. If all the points mentioned could be carried out, the tenants would certainly be placed in a very different position from that which they were now in; but there was another party who was to be consulted, and that was the landlord. He must say that, on the whole, the landlords in this district did what was right; and, if they did not do what was right, they must just be content with inferior tenants.

Mr. ANDERSON proposed a vote of thanks to Mr. Dunn for his very able paper. It was an important subject, and one which would demand the attention of the members of the club. There was no doubt we had in this neighbourhood a great number of very highly liberal landlords, who went on satisfactorily from year to year with their tenants; but still that did not say that the system of longer leases would not be more desirable, if it could be adopted, by giving the tenant a greater security for his interest in the farm. A landlord might be a very well-disposed and liberal landlord; but his successor, as Mr. Dunn had told them, might come, "who knew not Joseph," and had not known the preceding tenant; and, of course, under these circumstances, the same liberal terms could not be expected.

Mr. ROBERT ORMISTON seconded the motion, which was carried by acclamation.

The Discussion of the Paper was then adjourned to Saturday, May 7th, when

Mr. CHRISP, in opening the debate, said, he did not come there that day to oppose a lease. He thought a lease was very desirable, particularly to the tenant, and he believed the greatest difference of opinion would be as to the clauses of the lease. He believed that leases, in general, contained by far too many clauses, and he was of opinion that the opener a lease was kept, the better would it be for both landlord and tenant. A lease was good; but it was very strange that some of the very quotations which Mr. Dunn had cited were from gentlemen who were writers some fifty years ago. He believed that now there were fewer proprietors in the habit of giving leases, and that instead of being prolonged they were now considerably shortened. At the time the leases were so long, a great deal of the buildings, drainings, and various things of that kind were done by the tenant; so that it was then perhaps necessary to give a long lease to allow the tenant an opportunity of being reimbursed. Now, however, since the landlords, in general—because there were some exceptions—had taken the

buildings entirely into their own hands, the same necessity did not exist. He thought, in general, that long leases were good; but it appeared that even Mr. Dunn himself thought there was a weakness, else he could not have associated them with so many conditions to guarantee the tenant's interest. He (Mr. Chrisp) decidedly objected to a corn-rent; and he objected to the conditions of the power to allow the tenant to quit at a certain number of years, unless there was a similar power given to the landlord. The fact was, there were fewer leases now granted than there had been. He had seen leases granted to a tenant, where a person found in a few years that he had taken it on a wrong speculation, or there was, perhaps, a sudden depression of the market. He immediately went to the landlord; and what could he do but allow him to quit? Clauses had been mentioned to guard the tenant's interest; but how many instances did they find where, instead of being guarded, they might be overguarded, and guarded to such an extent as to be detrimental to the landlord! and that was one reason why the landlords had objected. With respect to the corn-rate, that was a rate depending on the price of corn upon the general markets of England, to which he objected, on the ground that in a bad year, when there was not so much to sell, the prices in the market might appear much larger, and the consequences would be that the rental would rise without the means of paying it. He was very much inclined, instead of advocating a lease, to allow every man to do what he considered fit and right, according to circumstances, according to the state of the farms, &c.; but to urge a lease, on all occasions, without looking very closely both to tenant and capital, would be most fallacious. With respect to compensation to the tenant, he held in his hand a book of Mr. Caird, who stated that it was nothing but chicanery, and that it benefited neither landlord nor tenant. He thought, therefore, that it would be as well to let matters alone as they were; and he was convinced that landlords would act honourably and liberally to their tenants, whose industry and perseverance were quite sufficient, without attempting to get hold of something which would be directly injurious instead of being apparently beneficial.

Mr. FERGUSON (of Bysell) said: With some of the remarks made by Mr. Chrisp I agree, and think Mr. Dunn entitled to our thanks for having brought his paper before us for discussion, as it contains some useful suggestions. In my opinion a lease of a farm for a considerable number of years is decidedly of greater advantage to both landlord and tenant than yearly tenancy; and on this point I entirely agree with Mr. Dunn. That gentleman says that his attention for a long period has been confined to mining business, and that he does not profess to have any practical knowledge of agriculture. I believe, therefore, he would have been more happy among his black diamonds in the bowels of the earth than among the clay on its surface; for, I fear, landlords generally will think his paper on farm leases somewhat one-sided, and therefore it is likely to discourage and put a veto on leases altogether. Mr. Dunn says that it is a great hardship when a tenant dies and leaves a

widow and a young family unable to carry on a farm. No doubt there may be occasional hardships in this, but I believe that is but seldom, for there is always about a farm a superior servant able for all the duties, and I have known instances many times where females, with the help of a steady servant, managed the farm in every respect as well as it was before. Mr. Dunn suggests that a tenant ought to have power in his lease to quit the farm at certain periods, I suppose at every four or five years, or, in other words, the landlord should be bound and the tenant free at the end of these terms if he thought proper. In my opinion this would lead to great confusion, abuse, and bad management, and no landlord would be willing to agree to it; nor do I think any respectable tenant would demand such a one-sided agreement, unless indeed he was bound in his lease to do certain permanent improvements at his own expense, such as draining, building, or fencing, and in that case a break in his lease, optional on his part only, might be reasonable and fair; but when no permanent improvements are to be made, such a stipulation in a lease would, in my opinion, be altogether one-sided. It is suggested, also, that tenants should have power to sell their leases at any time they pleased, and to whom they pleased, independent of the proprietor of the farm, provided he declined to take the lease and pay for any improvements which may have been made, after he had got twelve months' notice to that effect. In this way if a landlord did not or could not promptly respond to the demands of the tenant, the farm might be advertised and re-let to new tenants five or six times during the currency of a twenty years' lease, and consequently the proprietor of the farm never would be able to tell who his tenants were, or even get acquainted with them. This would be a state of things which few proprietors, if any, would permit on their estates. The interests of a landlord and tenant are or ought to be identical; but if tenants generally had the power to sublet their farms, or sell their leases to anyone and at any time, irrespective of the proprietor, their interests would then be the very reverse of identical, for the only object of the outgoing tenant would be to get a large premium for his bargain, whereas the object of the landlord always is to get a man with a good agricultural character, and who he believes may become a good neighbour and a good friend, as well as a good farmer. He is planted on the property of the landlord, and it is reasonable and fair that he should, as he always will, select his own tenants. When a tenant, by adverse circumstances over which he has no control, is compelled to resile from his lease, or when a tenant dies, leaving a widow and young family who may not be inclined to continue farming, and that even after considerable sums had been expended in improvements on the farm, then it might be advisable that the lease should give them the power to give up their farms on the understanding that they revert to the landlord, and be re-let by advertisement; and if a higher rent was obtained than formerly, in consequence of such improvements, then the tenant should be entitled to the surplus rent until the end of the lease, providing always that the new tenant fulfilled the conditions of the lease,

and regularly paid his rent. Perhaps some such clause as this would meet Mr. Dunn's views, and consequently supersede the necessity of selling the lease or making breaks in it optional on the tenant's part only, to which I believe proprietors generally would object. Mr. Dunn urges the propriety of tenant-right; and no doubt that may be necessary and proper for unexhausted manure, provided the farm is let to another tenant within a few months of the expiration of the term; but, in my opinion, a tenant has a better chance to farm with spirit if the lease can be renewed to him about two years before the expiry of the term, and if so, any tenant-right or allowance for manure would be unnecessary. Mr. Dunn hints at a corn-rent, and believes that mode of fixing the rent preferable to any other method; but I am aware that in several districts where that plan has for a long period been in practice, the landlords as well as tenants are getting tired of it, for the one never could tell what he was to receive, nor the other what he was to pay, and hence the difficulty of regulating the expenses for the year. A bad season, also, always operates severely against a tenant when his rent is paid by the price of grain, for it is often highest when he has little to take to the market. In my opinion, a fixed money rent is decidedly preferable for both landlord and tenant. I do not observe in Mr. Dunn's paper any recommendation as to how the farm is to be managed or cropped. Perhaps he wishes that this should be left open in the lease, so that the tenant may cultivate according to his own fancy. When a landlord has perfect confidence in his tenant, then I think he ought to have liberty to use his own discretion as to management, and be left very much to himself, because such a tenant will not take any advantage, or attempt to plunder the farm. But this liberty, in my opinion, ought to be given irrespective of the lease, which should be carefully drawn, and some mode of cultivation (according to the nature and situation of the farm) carefully specified and entered in the lease, not with the view of cramping an energetic tenant, but for the purpose of preventing the farm from being plundered and the soul taken out of it, in the event of its coming into the hands of a non-professional man. We all know that a lease, write it who may, will never make a bad tenant a good one. It will not make a tenant put only one horse into a loaded cart on a good level road, when he is determined to put two (as we see almost every day) to do the work of one. It will not make him cut his corn low when he is disposed to cut it high, nor will a lease compel a tenant to plough deep when he is disposed to plough shallow. But a lease will do this: it will give perfect security to a tenant, so that he may reap the benefit of his own improvements; and it will also, if properly and carefully drawn, protect the property of the landlord from being plundered and overcropped in the event of the lease, which is heritable, coming into the hands of a non-professional man. Some gentlemen who write leading articles in agricultural papers go quite crazy when they hear that a landlord inserts in his lease a particular mode of management or cropping of a farm, and they severely criticise such an arrangement, and insist

that it is unfair to a tenant to be bound to any system of management. They studiously, however, keep out of view altogether that a lease is heritable property, and in this way, by their severe criticism, they succeed in frightening some undignified, silly, weak-minded, vacillating men out of their senses. As I said before, when a landlord has perfect confidence in his tenants, then, in my opinion, he might with propriety allow them full liberty to follow the bent of their own mind as to cropping; but still I think that liberty ought to be given altogether independent of the lease, so that the landlord might have it in his power to protect his property from mismanagement in the event of a change of tenancy taking place. But suppose we take another view of the matter. Suppose a landlord does give such liberty to a clever tenant, and then, some years afterwards, a misunderstanding arises between them; or suppose the landlord dies or sells his property, and his successor is not willing to continue such liberty, and insists on his tenant to cultivate and manage according to the conditions of the lease: in that case the tenant might be put to some inconvenience for a time; but still I do not think he could, in fairness, consider such a demand harsh or severe, because the mode of management was agreed on and specified in the lease; and it was only a favour granted by the landlord that these rules should be departed from. These are the only observations which occur to me in reading Mr. Dunn's paper, which contains some useful suggestions, and for which I think we should offer him our thanks for the views he has propounded.

The CHAIRMAN (Mr. G. H. Ramsey) said, if he understood this question aright, it began with Mr. Dunn reading a paper on the "Advantages and Practicability of Farm Leases." Now, he did not know that Mr. Dunn, when he brought forward this subject, contemplated that there should be anything like compulsory letting of land throughout the country; but he (Mr. Dunn) wished to lay down a plan by which, if tenants were inclined to have a lease, there might be something practicable to go upon. He therefore began, in the outset, by saying that they should not have leases, because anything compulsory would be perfectly amiss; but he thought that the present leases, or some of their forms, were many of them so antiquated, that there was a great need of some leases. He then, however, came to what, in his (the chairman's) opinion, was a vital point. It was this, that when men invested capital—no matter in what, whether in land, houses, or ships—the first consideration with him ought to be to invest it safely and properly. Now if a man bought a freehold he gave a high price for it, because he believed he was investing his money on the very best security. Now, if he was right in that proposition, the same principle would come into operation respecting taking a lease. Many men, from circumstances in condition and life, would, he believed, be rather from year to year; and, if he understood this lease question aright, it was to make the leases as fair between landlord and tenant as it was possible to be between man and man. The landlord must have his rights. The property was his; and he had the power of laying down rules and regulations that he would let it

on, and upon no other. That was sometimes done, but that was not the equitable way of looking to the matter. The equitable way was to have the conditions such as would entice a man with capital to farm his land properly and well, and give him the highest rent for it. There was no one who could find fault with a landlord for that; but if he went beyond that, it came very hard upon him, and he found that it did not answer his purpose. The landlord in all the leases that he knew of was made perfectly secure; and he thought there was almost no case of which he knew in which the landlord had not always the power of heightening the rent. The landlord had got power over his property; and although they had seen many instances where farmers had cheated their landlords, that they could not help, for it would be always the case, whether they had leases or no leases. According to the evidence before the House of Commons, a lease was a sort of tenant-right; and if it were granted for perhaps twenty-one years, a treaty should be entered into between landlord and tenant at least four years previous to its expiration, with a view to renewing the lease; for no land in this country, he believed, ought to lie in a state of unproductiveness. Now, to secure a man of capital and industry, it seemed to be a great hardship if he were compelled, without any reason whatever, to go on for those twenty-one years; nor did it seem to him fair that the landlord should be bound for twenty-one years. In colliery leases it was different. A colliery lease was of a very speculative description,

and in farm-leases there was nothing of that kind, the land being such as at first-sight it was found to be. He thought Mr. Dunn had done wrong in talking about corn-rents. He (the chairman) thought corn-rents had proved themselves to be very fallacious.—[Mr. Dunn: I do not press that.]—If a man had a wheat-farm, and depending almost entirely on wheat, then he might have a fixed medium of exchange; but if he had not—and fortunately for most men in this country they knew better—they had what in the north was called “a mixed husbandry.” What, however, Mr. Dunn wished in his paper was to encourage men of capital to put their money into land, as tenants, for which they should have a security as far as it came between landlord and tenant. He believed, generally speaking, that the tenant-right question in the South of England, where it was best understood, was working very favourably indeed. It could hardly be expected that Mr. Dunn, who was not a practical farmer, should have gone into all the minutiae of the question, but he thought they were certainly greatly indebted to him for having brought so important a subject before them, the issue of which he hoped would be that mutual understanding between landlord and tenant which would result in the happiness and prosperity of both.

MR. DUNN briefly replied; and in the continuation of the discussion Sir Matthew White Ridley, who was present towards the latter end of the proceedings, along with other gentlemen, took part.

OAT CULTURE.

The oat is, perhaps, the most generally cultivated of all the cereals in northern countries, and the least liable to disease or injury from insects. It is successfully grown throughout a wide range of latitude, enduring almost Siberian cold and tropical heat, and on the poorest sandy soil, the stiffest clay, or the more genial loam.

In Scotland, of which the oat may be considered the staple agricultural product, no soil or district is found either too rich or too poor, too hot or too cold for it. As Messrs. Lawsons tell us, Scotland is, in fact, the country admittedly the best fitted for its growth; and hence its importance there in comparison with other cereals. The estimated number of acres of cultivated land under a rotation of crops in Scotland is 3,500,000; of which 200,000 are under wheat, 100,000 under barley, 1,000,000 under oats, and the remainder under various other crops. The average annual produce of oats in Scotland exceeds 4,000,000 quarters. The average weight per bushel for all Scotland in 1855 was 39½ lbs. In 1856 the highest weight was 41 lbs., and the lowest 34 lbs. to the bushel. The largest produce per Scotch acre was in Haddington, 45½ bushels; while in Nairn and Arran it was as low as 25 bushels. These figures prove, at all events, what an important grain the oat is to the Scottish agriculturist. The Agricultural Museum of Messrs. P. Lawson and Son,

at Edinburgh, comprises nearly seventy varieties of oat; about half of which are grown in Scotland, although not more than a dozen are in general cultivation.

Farmers differ very materially as to the amount of seed necessary—some say three bushels; while the Scotch farmer will sow nearly double this quantity of some varieties. Such excessive seeding, however, is condemned by the more intelligent. Carefully conducted experiments, recorded in the “Transactions of the Highland and Agricultural Society of Scotland,” prove that a larger yield may even be obtained by thin sowing, or from two and a-half to three bushels to the acre, than from five bushels to the acre.

Large as our home-production is, our foreign supplies of oats now approximate upon 2,000,000 quarters per annum, and have been gradually increasing for several years. Our largest supplies are derived from the northern states of Europe and the Baltic ports; about 800,000 quarters from Russia, and 500,000 quarters from Sweden and Denmark; Prussia, Hanover, Holland, Belgium, and a few other countries, 130,000 to 140,000 quarters each; and more than £2,000,000 sterling is paid to foreign countries for this single grain, to feed our horses. The consumption in London alone of oats is enormous, to feed the horses which draw our public vehicles, or are kept for pleasure and business purposes. Besides what came to the metropolis by

land-carriage, the imports of oats by sea, in 1857, were about 1,700,000 quarters.

Ireland produces a large quantity of oats; there being nearly 2,000,000 acres under cultivation with this grain there. The extent of land devoted to oats in Ireland has, however, been on the decrease for the last six years. Still our imports from the sister kingdom are considerable, although the shipments from Ireland do not now come up to the amount exported in the years previous to 1845, when the exports were about 1,500,000 quarters, or more than the extraneous supply we received from foreign countries, in addition to the home-growth.

The produce of oats in Ireland is about 10,000,000 qrs. yearly; of England, probably, 12,000,000 qrs.; and of Scotland, as we have seen, 4,000,000; making, with the foreign importations, a total consumption in the United Kingdom of 28,000,000 quarters for human food, horse-feeding, seed, &c. Taking the average value last year at 24s. per quarter, this gives an aggregate of £33,600,000 for this one crop alone.

While speaking of value, we may notice the range of prices of oats, which have fluctuated even more than those grains used more extensively for breadstuffs, or for human sustenance. During the last thirty years the lowest average price in any year was 16s. 5d. per quarter in 1850, although in April of that year they were selling at 15s. The highest average price of any year was 28s. 8d. in 1847. In June, 1847, oats sold at 34s. 2d.

Oatmeal is not much used for human food in England, but is chiefly employed for feeding pigs, dogs, &c. Our imports of oatmeal have fluctuated considerably, at one time exceeding 1,000,000 cwt. per annum. The following quinquennial returns mark the progress of the foreign imports:

1835		566,006 tons.
1840		989,500 "
1845		1,058,000 "
1850		786,000 "
1858		371,266 "

But, besides this, we also receive a large quantity from Ireland; in many years touching 50,000 tons.

Oats can hardly be said to be largely cultivated in France: they are grown exclusively for the use of horses. There are several varieties cultivated, divided by the French into white and black; by the Flemish into white, yellow, and black. The white oat is most congenial to a soil which is humid, the black to a dry soil. The black oat, in comparison with the white, is represented as worth an eighth more for use; that is, it is more nutritive in the same weight, and its cultivation less exhausting to the soil. The best crops in France, rating 33 pounds to a bushel, according to Mr. H. Coleman, yield about 48 bushels to the acre; but a great portion of the crops give much less, and the average crop is rated at only 16 bushels per acre, which indicates very negligent cultivation. A few years ago there were 7,500,000 acres under culture in France with oats. What the extent of crop is now we have no means of judging; but if this holds good, and the yield

be as stated, it would give 15,000,000 quarters as the produce of oats in France.

In Austria, the production of oats in 1851 was 16,443,000 quarters.

Though not occupying the highest rank, the oat crop holds a very important position in American agriculture, and they have been an object of cultivation in the United States from the time of the earliest settlements. Oats have never been used extensively there as an article of food, though some immigrants who were accustomed to them in their native land still continue to use their oatmeal cakes and porridge. The American summers are too warm and dry to produce the heavier kinds in the perfection they are grown in the cooler and moister climate of Great Britain; and the more suitable adaptation of the American soil and climate to the growth of maize, which, though less nutritive, is equally wholesome and palatable, will probably preclude the introduction of oats to any extent there as human food. Their true value is as food for working animals. No other grain will secure (with the exception probably of wheat and barley), pound for pound, more working capacity in animals than sound heavy oats; and it is as a food for draught cattle—horses, mules, and working oxen—that they are generally used. The production of oats throughout the United States in 1840 was about 15,400,000 quarters; in 1850, 18,330,000 quarters; and at the present time it probably exceeds 25,000,000 quarters.

In nearly all our colonies oats are grown to a greater or less extent, but only for local consumption as horse-food; and green fodder and pasturage being plentiful, this grain is not much stored.

THE CROCUS'S SOLILOQUY.

Down in my solitude under the snow,
Where nothing cheering can reach me;
Here, without light to see how to grow,
I'll trust to Nature to teach me.

I will not despair, nor be idle, nor frown,
Though locked in so gloomy a dwelling;
My stems shall run up, and my roots shall run down,
While the bud in my bosom is swelling.

Soon as the frost will get out of my bed,
From this cold dungeon to free me,
I will peer up with my little bright head;
All will be joyful to see me.

Then from my heart shall young petals diverge,
As rays of the sun from their focus;
I from the darkness of earth will emerge,
A happy and beautiful crocus.

Gaily arrayed in my yellow and green,
When to their view I have risen,
Will they not wonder that one so serene
Came from so dismal a prison?

Many, perhaps, from so simple a flower
This little lesson may borrow—
Patience to-day, through its gloomiest hour,
We come out the brighter to-morrow.

AN AMERICAN SHOW FARM; ITS MANAGEMENT AND STOCK.

Behind the range of "Tor Hills" which form the western shore of the Hudson River at Haverstraw Bay lies "Waldberg," the farm of the Hon. Abm. B. Conger, President of the New York State Agricultural Society. The river, beautiful throughout its entire length, is at this point peculiarly attractive. Spreading out to a width of some two miles, at the Palisades it widens with a gradual curve at either shore, until at Sing Sing it forms the "Tappaan Zee," and, above Croton Point, the beautiful Bay of Haverstraw. Mr. Conger's estate has a shore-line of two miles and a half. The whole farm contains 1,400 acres, embracing hill and vale, woods and clearings. The house is a large one, built in the Tudor style, and well arranged within for comfort. This same style of architecture has been applied to the immense range of barns and farm buildings that lie in a cluster, in a sheltered valley at some distance from the family mansion.

The soil of the farm is generally a clay loam, resting upon a red sandstone formation, and having an average depth of ten feet. Here and there, where mountain gullies have met in some basin, deposits of woods-mould and muck have been formed; so that there is in one place a swamp-plot twenty acres in extent. Smaller deposits of the same valuable material are found in other places. The farm is, properly speaking, on the gradual slope of the hills; and this gives a good fall for drainage. The little brooks from this range of hills trend off to the south-west, and unite to form the Hackensack River, into which also the waters of Rockland Lake find an outlet.

The surface of the ground is thickly strewn with boulders, large and small, which are a serious impediment to proper cultivation, and which are available for walls only at great expense in blasting. Should Mr. Conger ever rid his fourteen hundred acres of this difficulty, he will deserve great credit for perseverance and courage. To form his present place, he has purchased thirteen farms, the greater part of which have been skinned for generations by the old Dutch farmers. The houses on these thirteen farms have generally been allowed to stand, for the use of Mr. Conger's men; while the barns have in some cases been enlarged and repaired for the stock, and sometimes torn down. Land throughout the valley sells for 60 to 100 dollars per acre; while exactly opposite, on the other side of the river, people pay as high as two and three thousand. Dilapidated barns; straggling moss-grown stone fences; land covered with a thin turf of June-grass, and foul with weeds; or bare fallow, so wet in places that water stands on the surface late in spring—these are the signs of bad farming that one sees all through these old Dutch settlements.

To get things back into decent shape, to tear down the tumbling walls and build better ones, put in several miles of tile drains, clear away the boulders, and gradually work his farm into a thrifty condition, is the self-imposed task of this spirited proprietor. His plan is to plough deep and manure thoroughly with barn-yard and special fertilisers, and plant with corn, following with a root crop the next year, and even the third if necessary, to get rid of weeds and put the soil in good heart and tilth, then, after oats or barley, with clover, to seed down with wheat. He wishes to get into grass enough land to support his herd, devoting the residue to regular grain crops, following the best system of English husbandry, and

getting up to crops of forty bushels of wheat, and thirty tons of mangolds. All this is possible, with time and money, and patience; but, looking at the size of the place, the discouragements to be met, and the obstacles to be overcome, we fear he will become faint-hearted before the work is entirely accomplished.

Although Mr. Conger has over two hundred head of cattle, and a large number of horses and sheep, yet his idea is to make the stock-breeding incidental to the improvement of the farm; so that if he finds the breeding unprofitable he can have recourse to general farming. He has set to work like a large farmer, to get good stock by a judicious purchase of parents, keeping always enough of best blood pure to recur to from time to time. Thus, for instance, he might cross other strains with Duchess or Oxford blood, but he would be careful to keep so much pure that he might return to it if he found the qualities of these families did not show beyond two or three generations. Of horses, he aims at breeding roadsters of good size and action, but does not wish to raise racers. He has native, grade and thoroughbred dams, and old Hero as sire to his colts.

The principal barn is composed in part of smaller buildings joined together, and in part of new additions, the whole finished in harmony with a definite plan. In form it is a parallelogram, open on one of its longer sides toward the south. The portion already built gives a range of four hundred feet of stalls on the basement and first floors. These stalls are arranged on either side of a four-foot passage, the whole having a grouted floor, which in the stalls slopes back to a gutter, which has a sufficient fall to carry liquids into the tank under the manure-shed outside. In the calving boxes and loose boxes a floor of slats is laid, according to Mechi's plan, the spaces between the slats varying with the kind of animals that are to occupy the stalls—narrower for sheep, and wider for horned cattle or horses. We noticed a particularly good plan for making the front of the stalls on the passage way. In place of rising perpendicularly to the ceiling, there is, at say four feet from the floor, a slant inward, like a cellar door, for a short distance, and then the partition is again carried up perpendicularly. The upper tiers of three or four boards are omitted, so that a free circulation of air is secured from the windows at either side of the building. The slant in the partition is the feeding door to the stall, and is hung on hinges, and fastened up by a ring to a hook above. The feeder passes through the four-foot passage, and has abundance of room to carry a basket on his shoulder, or a large armful of hay. Inside the stall, and over the manger, a hood comes down so as to prevent an unruly bull from rushing at or goring his keeper when the feeding door is opened.

Mr. Conger, believing that each breed of animals possessed peculiar excellent qualities, has collected shorthorns, North Devons, Ayrshires, and Alderneys upon his place, and proposes to breed from all of them. The herdsman, Thomas H. Patterson, was formerly with Col. Stewart, in Ireland, and had every opportunity to make himself familiar with the management of stock. He practised at Col. Stewart's plan much in vogue in Ireland for the cure of sterility, which seems to us a barbarous, and, reasoning from analogy, a useless one, viz., the excision of the clitoris. This practice was not known in England until recently; but in the last volume of the Royal

Agricultural Society's *Journal*, Mr. Bowly, a well-known breeder, refers to the Irish custom, and indorses it, stating at the same time that he had practised it with success. Without having had a practical experience in the matter, we incline, on theoretical grounds, to the opinion of Mr. Conger, who has given the subject much attention. He thinks that if success has ever attended a supposed excision of the clitoris, for it never could an actual, it was because the operator punctured the sac of pus which forms at the upper side of the organ; and this would be eminently proper, if the place were cauterised either with the iron, or nitrate of silver. We hope that some person who has had experience in this matter will make it public, for the subject is one of much importance to breeders of fine stock.

As the horse is considered nobler than other animals, and old Hero is the noblest of the Waldberg stud, we will look at him and the other horses before passing on to the horned cattle.

Hero is a lithe-limbed chestnut horse, whose performances on the turf are duly recorded in *The American Turf Register*. He was foaled in 1840, bred by Marion de Vaux, and trained by Colonel Singleton of South Carolina. He is by Bertrand Junior, out of imported Mania by Figaro, g. dam Maniac by Shuttle, g. g. dam Anticipation by Benningborough. Bertrand, Junior, was by Bertrand out of Transport by Virginus, g. dam Nancy Air by Virginian, and old Bertrand was by the famous Sir Archy out of Elisa by imported Bedford. Hero is especially remarkable for his wonderful constitution, evinced by his having won a match, mile heats, in 2 min. 6 sec. and 2 min. 15 sec., carrying 165lbs., when he was 16 years old. His crest, withers, arm, chest, and thighs are all finely developed, the latter being very long and muscular. He lost an eye some years since by some accident in his stable. He looks at present low in flesh, but seems very active, and as vigorous as ever. To us he seems of too light a build to get the compact, square-going roadsters for which Vermont is famous, and that his colts would rather partake of the greyhound form of the thorough-bred racer. We could not avoid noticing in Great Britain, on a recent visit, the great scarcity of good roadsters, and we were led to believe that an infusion of Black Hawk or Morgan blood would be of great service in that country. Their stock has been so bred up for the turf, that it is not easy to find a good square trotter, such as would excite envy on the Bloomingdale Road.

Mr. Conger has 14 brood mares in his stables, some of them very nice animals.

SHORTHORNS.

Suffolk Hero has come into this herd with a reputation for a bad disposition, having on former occasions amused himself by hurting his keepers; but Mr. Conger has had no trouble with him since he has come into his possession. He is a very heavy-bodied animal, though, we think, rather narrow-chested, quality fair, upper line good, of great weight. He was bred by Mr. Morris, but has the Marquis of Carrihas blood in his veins, and does not rank as an F. F. V. in the shorthorn family. Messenger, by Tommy Bates (18890), out of Jane, by Chevalier, a Bates bull, is a fine roan, not so large as Suffolk Hero. He has a great many crosses of Duke and Oxford blood in him.

Gwynne's Duke of Oxford was bred by Thorne, and is by far Mr. Conger's best bull. He is by Fordham Duke of Oxford, dam Mistress Gwynne, who was got by Grand Duke, out of Mystery. Fordham Duke of Oxford is now owned by James B. Clay, of Kentucky, and held, we are told, at 5,000 dollars. Gwynne's Duke of Oxford was sick at the time of our visit, his symptoms giving reason to suspect a peritoneal inflamma-

tion, and stricture of the gall bladder. Mr. Conger is treating him on the Homoeopathic system, and felt sanguine of effecting a cure.

There are three bull calves in boxes adjoining the last-mentioned animal, two of the three being white. One, Ellesmere, a Messenger calf, is of Mr. C.'s breeding, now ten months old, and weighs 700 or 800 pounds. Another, Chillon, promises well, and so does Gauntlet, by Duke of Oxford, out of Garland.

Coming to the cows, we notice a number of very high-bred animals that, in their day, have brought famous prices at English sales, but are now barren. Oxford VI. was bred by Bates, got by 2nd Duke of Northumberland, out of Oxford 2nd. Three of her calves sold at the Tortworth sale, in 1853, for 630 guineas, and were resold at Hendon, in 1855, for 500 and 480 guineas.

Boukie, the dam of Bouquet, is very thin, having milked away all her substance.

Iris won two prizes in Scotland, and took the first prize at the United States Society's show at Boston. She has not calved for two years past. She is very heavy, has a broad flat back, but not the signs of a milker, and, unless she gives a calf soon, should be sold to the butcher.

Elgitha, Lady May, Surprise, and Blvzelind, all first-class animals, are sterile. Zos, by Fifth Duke of York, is the dam of Haines's Marmion, and has brought Conger a heifer calf, Zuleika. Her pedigree was given in the last English Herd-Book as far back as the Waistell and Hubback bulls, but cannot really be traced further than to Mr. Beasley's Jannette. It is a too common custom with some breeders to ennoble their saleable animals by appropriating, wholesale, the necessary pedigree to make them trace back to the Waistell and Hubback bulls—a practice which cannot be too highly reprehended. Elgitha and Surprise were bred by Sir Charles Knightly: the former, sired by Balco, and the latter by Earl of Dublin and Lady May, is, perhaps, one of the best-bred cows Thorne ever had. If they and Oxford Sixth and Iris would give Mr. Conger a nice heifer calf a piece, it would at once give a high character to the Waldberg herd, besides adding very largely to the pecuniary profits of their owner. This unwelcome barrenness is common to very high breeding, and one of the most considerable risks of our public-spirited importers. A man may purchase a very valuable animal at one of the great English sales for an exorbitant price, and, after incurring the large expenses of importation and the risk of accidents and death by the way, find his purchase either a total loss, or perhaps get but one calf, and that a bad colour or constitution. It is not unreasonable, therefore, that a large price should be asked for really fine young stock; for, by a single week of sickness, the breeder may see some of his most valuable animals swept away.

In England, whence all the improved breeds of cattle have come, the fact is well known that where a certain train of blood has been crossed with others, through several generations, there is a constant tendency in the descendants to "breed back"—that is, to take on the form of some undesirable ancestor, instead of following the perfect points of their immediate parents. This tendency is called "atavism," and is a source of great annoyance and pecuniary loss to breeders. The rule holds good that where a particular breed of animals has been kept pure, or if crossed, crossed only with an equally distinct and established family, the young will always take the forms of their sires and dams; and a breeder may invariably expect that his Shorthorn, or Devon or Hereford calf, will be like in form and qualities to its parents. A herd-book should, there-

fore, be so arranged as to present at a glance the breeding of your animal, so far back that you can see how much of certain well-known strains of blood are combined in it. Mr. Conger thinks the present received plan can be modified for the better,

and has adopted the following register of pedigree. For instance, one of his cows is Boukie; her pedigree may be found in the English Herd-Book, vol. iv., p. 278. She was calved in 1849. In Mr. Conger's Stock-Book she is thus noted:

BOUKIE—[English Herd Book, Vol. iv., p. 278.]

Red Roan; calved April 25, 1849; bred by Robert Bell, Morbore Hall, Rainford, England.

Got by 4th Duke of York (10,167*).....	{ By 2nd Duke of Oxford (9,046), out of Duchess 51st, by Cleveland Lad (8,407.)	{ Matchem Cow, by Matchem (2,281) Duchess 1st, by Comet (155) Matchem Cow, by Matchem (2,281)
Dam, Cicely, by Duke of Northumberland (1,940)..	{ By Belvidere (1,706), out of Duchess 34th, by Belvidere (1,706).	{ Princess, by Favourite (252) Duchess 1st, by Comet (155) Princess, by Favourite (252)
Granddam, Craggs, by son of 2nd Hubback (2,683)..	{ By 2nd Hubback (1,423), out of Red Rose 2nd, by His Grace.	{ American Cow, by Favourite (252) American Cow, by Favourite Duchess 1st, by Comet (155)

Great grandam, Craggs, bought of Mr. Bates, and descended from the stock of Mr. Maynard.

N.B.—American Cow was own sister to R. Colling's Red Rose, by Favourite (252).

* The numbers appended to the names of animals refer to the English Herd Book.

Here we have spread before us, not only the breeding of Boukie herself, but that of her ancestors on both sides as far back as her great grandam. Looking at it, we observe that her sire, 4th Duke of York, has in him two crosses of the Matchem cow by Matchem, and one of the 1st Duchess by Comet; his own dam being the 51st Duchess, and his sire a Duke.

Our readers will notice another improvement in this pedigree, viz., in place of multiplying the letter g to indicate the number of removes back, adding an extra g for each dam's dam—he merely indicates the remove by a numeral affixed to the letter g, as is the custom in algebraic formula to designate the power of the unknown quantity.

DEVONS.

The principal Devon bull of this herd is Frank Quartly (205), whom we saw sold at Lewis G. Morris's sale three years ago. He was bred by John Quartly, of Molland, Devon, one of the great improvers of this breed of cattle. His sire was Earl of Exeter (38), grandsire Baronet (8), dam Curly (96), by Favourite (43), and thus back to Quartly's old Curly cows, the best he ever owned. He is now eight years old, but his constitution remains good. His shape is fine, and his quality very fair. His hocks and hips show that he was made for a fast walker, and there is that general appearance of agility about him which characterises the Devons, than which, as our readers well know, there are no better working oxen.

These are some promising young bull calves, two two-year-olds bred here by Rob Roy, and one out of Princess by Governor.

None of the animals seem to be high in flesh. The reason seems to be that too few turnips and mangolds have been fed, and as the pastures have been poor, no other result could have been expected.

Of the cows, the first we come to is old Droop-horn, who has given Mr. E. G. Faile, of Westchester Co., some of his finest calves, and to her present owner two heifers. Her days of usefulness are, of course, approaching their end, and she must soon be laid up in ordinary.

Princess's 3, by Frank Quartly, out of Princess, was bred by L. G. Morris. She is a neat, compact little animal, a fine milker, and of good shape.

Next to her stands a grade heifer, a very deep milker, and marked like a thorough-bred Devon. Her Guenon mark, or escutcheon, is very plain and broad.

Œ Olive, bred by our old friend, the Hon. B. V. French, of Mass., is out of Stickney by Norfolk, whose sire, Bloomfield, was imported by the Massachusetts Society for the Improve-

ment of Agriculture. She has a fine shape, good shoulder-point, full crops, flat back, hips better filled than usual, a tolerable handler, and a creamy lining to her ears, and around her eyes.

Milkmaid (889) is a clean-made creature, with good hips, and a good back.

Zeils, one of Wainwright's breeding, is by Mayboy (71), out of Editha (680). Her shoulder-point and whole fore hand are good, and she will bring working oxen, having size, and of the right build.

Virginia (1116), sired by Duke of Devon (bred by George Turner, of Burton, England), and imported by Mr. Faile, has a great length of quarter, and good loins.

Cleopatra, one of George Turner's breeding, by Louis Napoleon, dam Hawthorn (218), has wide hips, and many other good points about her. She resembles in shape Haines's Dulcinea.

Ginerva, imported by Wainwright, is in calf by Horicon. She is very stocky, much heavier bodied than usual. She handles very well; her hair is fine and rippling, and her shoulders very heavy.

In addition to a number of other cows, there are ten young heifers, more or less promising, but they all look rough, with one or two exceptions. They have got the material in them to make good animals, and would present a much more showy appearance if they had had a liberal allowance of mangolds, or turnips, and grain.

AYRSHIRES.

The bull Eric was imported by Thomas Richardson, Esq., of West Farms, N. Y. He is a red and white, calved in December, 1855. He is said to have marked all his calves very handsomely, and can also impart to them his own fine shape. He is poor in flesh, having been kept on a low diet.

Marmion 2nd, a red and white, bred by Col. Bogert, of Clarkstown, N. Y., was sired by imported Marmion, dam imported Jessie. He is now nine years old. As a five-year-old he took the first prize in his class at the Elmira Show of the New York State Society.

The best of the Ayrshire cows is Red Lady 2nd, the prize cow at Elmira.

Norma, a red cow, was imported by Mr. Richardson, and Jessie 2nd, and her daughter Jessie 3rd, were by a cow and bull imported by Mr. Thom, the sculptor, whose place was at Nanuet, on the Erie Road. The breed of Ayrshires is kept here for milking solely. Mr. Conger thinks the Ayrshires the most profitable breed for small farmers on poor land. If the object be to get milk for market, we quite agree with him; but

for getting working cattle we should much prefer the Devons, and for beef Herefords.

ALDERNEYS.

With a view to having a certain proportion of good Jersey cows in his milking stock, Mr. Conger has purchased a good bull, Ivanhoe, a good shaped, smooth animal, larger than the general run of his class; and larger than the bull we saw in Mr. Colf's stables a year ago. We think that in a first-rate dairy one Jersey cow should be kept for each ten of other kinds, for although they are not large milkers, yet what they do give has such a large percentage of cream, that mixed with the other milk it imparts to it a wonderful richness and flavour. Unfortunately our milkmen, instead of adding one Jersey to each ten others, are more in the custom of adding a much larger proportion of liquid from the "iron-tailed cow," or town-pump, doubtless with the view of reducing its richness to the capacity of the weakest digestive organ.

SHEEP.

On the hill sides and mountain pastures of the farm one hundred Southdown sheep find subsistence. The greater part of them have been bred by Mr. Conger himself, some by

Thorne, Lowndes, Walsingham, Lugar, and even Jonas Webb himself—nine of the ewes having been imported from his flock by Col. Morris and Mr. J. M. Sherwood. With plenty of land at his disposal, and abundant pens and yard-room, there is no reason why Mr. Conger should not get up a very fine flock of Southdowns.

SWINE.

Three of the best English breeds of swine—Berkshire, Essex, and Suffolk—are represented here by high-bred animals, many of them prize takers, and, so far as we saw, all good of their kind.

Our readers will agree with us that it is not often such a combination of various breeds can be found on a single farm. This gentleman has undertaken to breed pure Shorthorns, Devons, Ayrshires, and Jersey cattle; horses, both thoroughbred and grades; Southdown sheep; and three kinds of swine, besides assuming the wearisome and discouraging task of bringing up a very large farm. Fortunately he can bring to the development of his schemes the assistance of a princely income, and thus has it in his power to effect results which would be beyond the reach of any ordinary proprietor.—*New York Tribune.*

FOWLER'S STEAM-PLOUGH.

We availed ourselves, at the close of last month, of another invitation from Mr. John Fowler to witness the performance of his "Steam-ploughing Tackle," on the farm belonging to M. T. Bass, Esq., M.P., Napsbury, near St. Alban's, and about two miles from the Park-street Station of the North Western Railway.

The field on which we found the machine at work contained about twenty acres, the soil being a strong loam, approaching to clay, which, after the rain of the preceding night, without being unpleasantly wet, cut like butter under the shares. There were three ploughs attached, each of them turning a furrow of ten inches by six, which they would have executed with ease but for the land having been recently drained. This interfered with the ploughs, which sunk in crossing the loose soil over the drains, causing occasional stoppages, to adjust the elevation of the shares. The land was free from couch and other grasses, but had a good deal of rubbish on the surface, and appeared to us to require the grubber before the ploughs. As it was, Mr. Greig estimated that about seven acres would be performed in the day's work of twelve hours; which would have required—according to the opinion of the farmers present—seven ploughs with three horses each to accomplish. Eight men were in attendance upon the machine, besides the manager.

An adjoining field of twenty acres had been stirred with the grubber, which finished it in two days. On the first day (Thursday) it completed about seven acres, when Mr. Bass offered the engineer a wager of £10 that he would not on the Friday accomplish ten acres. It being stipulated with the men that if they won the bet half the money should go to them, they were put upon their mettle, and finished from twelve to thirteen acres in the given time.

This implement stirred the soil to the depth of six or seven inches, and appeared to us to have executed the work very fairly. The land was in a very foul condition, and it will want *immediate* dry weather to prepare it in any reasonable time for a crop of mangold wurzel, for which we were informed it is destined.

We were much gratified with the performance of the "ploughing-tackle," both as applied to the plough and the scuffer or grubber. The first turned a clean and straight furrow, of greater depth than could have been done with ease by three horses. In the present state of the question of steam-ploughing, we consider Mr. Fowler's apparatus a valuable adjunct to the working implements of the farm; but we still hold to the opinion that an economic application of steam-power to the cultivation and general work of a farm is at present an unattained desideratum, by any of the systems brought forward at the public shows. In our view of the case the error lies in endeavouring to accommodate a new and peculiar power to an ancient land-system, entirely incompatible with it, instead of bringing the land into form to meet the requirements of the power. It is the same error that was committed before the first railway (the Liverpool and Manchester line) was laid down. The machinists of that day attempted to run steam-carriages on the common roads. They soon saw their error, and have rectified it, at a cost of nearly *four hundred millions sterling*. The question of expense is what at present deters the landed interest from following the example; but to this they must eventually come, if steam-agriculture is to be economically adopted. Wherever it is introduced, it must reign alone, and supersede every other power; and the sooner both the machinists and the agriculturists apply themselves to the consideration of the subject, the better.

COLLEGE FOR THE RELIEF OF DECAYED FARMERS, THEIR WIDOWS, AND ORPHANS.

TO THE LANDOWNERS, FARMERS, AND OTHERS CONNECTED WITH BRITISH AGRICULTURE.

Referring to a former communication on this subject, permit me to state that the sum proposed to be raised in the first instance is £50,000. My reason for naming this sum is that it represents a donation of one farthing per acre on the 48,000,000 of acres farmed in Great Britain; and, although I do not suppose that every farmer will give, still, if one-fourth contribute one penny per acre, it will produce £50,000.

Speckman, in his "Occupations of the People," estimates the value of land and tenants' capital at two thousand millions, or twenty-five times as large as the manufacturing interest, which he estimates at 78,000,000. Surely, then, we may anticipate no difficulty in raising such an institution. When we consider that landholders must desire to aid it, and that extensive interests in towns and cities are bound up, as it were, with agricultural welfare and progress, it cannot be utopian to expect a very much larger result than the amount I have named. Our great towns and cities are, as it were, peopled from the agricultural districts, and we may expect much aid from family ties and relationships.

It is intended that the institution shall be managed on the best model of other similar institutions—that candidates shall

be elected by the votes of the subscribers, so that each county shall have its fair share, according to the amount of its contributions—and that, after a certain period, candidates shall have been subscribers.

As a great deal may be done for the Charity by farmers amongst their friends, I shall be happy to forward papers for the signature of those who desire to serve the cause.

I am, yours faithfully,

J. J. MEECH,

Tiptree Hall, Kelvedon, Essex.

Hon. Sec., pro tem.

All communications may be made to the honorary secretary, 10, Cannon-street, London, E.C.

Remittance to be sent to the account of the Royal Agricultural Benevolent College, Unity Bank, Cannon-street, London, E.C., a receipt for which will be duly forwarded.

[We willingly give insertion to these circulars; but is not the Richmond Institution still in existence, however circumscribed in action? If so, in what relation would the two societies stand to each other?—EDITOR M. L. E.]

JUSTICE BETWEEN LANDLORD AND TENANT.

SIR.—Mr. Pitt said that no country could be great that was poor in agriculture. This extraordinary calculating legislator was further heard to say, that "corn grown in England is doubly advantageous, because it is produced by English labour and capital, instead of foreign labour and capital. The more you lay out upon the soil, the richer you make your country." The great-minded warrior and statesman Napoleon the First wisely said, "So long as England would grow corn enough for herself, no country or countries could conquer her; but whenever England becomes dependent on foreigners for food, then, by a combination of countries, England might be conquered by starvation," which is reasonable.

How are we situated now with 12,500,000 acres of waste improvable land in Great Britain and Ireland, with a free trade, game laws, and no tenant-right *alias* justice between landlord and tenant, which is one-sided legislation and a great obstruction to agricultural progress? Common sense boldly says, "Woe be to a country when its rulers mean place, power, and pay;" and where there is no will for tenant-right they will find no way. The great arbitrator between emperors, kings, and their dominions—nay, whose mind carries

the balance of peace or war between nation and nation—what has the French monarch done for England, and what is he capable of doing with his high disciplined army, and the English fleet to sweep the seas? He would keep all the world at bay; as for any country rising against him would be like a dog baying at the moon. This keen, foresighted monarch is well aware that the neglect of agriculture was the downfall of the Roman empire; and to make France as rich in agriculture as England, he offered high premiums for the best cattle, sheep, and horses under the sun, to show the French farmers what might be bred and done, which was a fine example to all monarchs and governments upon the earth.

Our agricultural implements in husbandry astonish all the world, and set them a thinking what is to follow next. The age of witchcraft is past, the age of discovery we live in, and I hope the age of justice between landlord and tenant will soon arrive. Wise men wonder, good men grieve that we have no tenant-right by law in England, which the *Mark Lane Express* for years has been trying to obtain for the farmers.

SAMUEL ARNSETY.

Milfield, Peterborough, 24th May, 1869.

THE BEST AND CHEAPEST METHOD OF MANURING THE FARM

SIR,—Your columns help us materially in endeavouring to solve one of the great agricultural problems of the day, viz., the cheapest and most efficient method of breaking up and cultivating the soil. There is another point, to my mind almost equally important, on which those columns have certainly not been silent, but which I greatly desire to see still more clearly and forcibly explained; it has reference to the best and cheapest method of manuring the farm. The question is, Ought we to make or to purchase our manures? Can we make farmyard dung at such a price, when compared with guano, rape-dust, or superphosphate, as to render it worth our while to undertake the task? I have been at some pains to ascertain this point, without meeting such complete success as might be wished, chiefly from the difficulty of valuing exactly the excreta of the animals.

I bought in January last four Dutch beasts for £45, forward in flesh, and two years old. They were fed exactly three months (13 weeks) at a cost of exactly £36, without labour, interest of money, or value of litter. The food, which rather increased in quantity as they would bear it, averaged about 9lbs. linseedcake, half a gallon beanmeal, half a gallon crushed foreign barley, half a bushel pulped wurzel or swedes, one bushel chopped hay and straw, with a handful of long hay occasionally, per head per day. They were sold out, one by weight at 5s., another by weight at 4s. 8d., and two in the market, for a gross sum of £75, leaving a loss of £6 on the cost of food and purchase, or, with attendance and shed-rent very moderately reckoned, a loss of £7 10s.

Can any of your readers tell me, clearly and certainly, whether this transaction did involve a loss or not? In other words, is there any formula of reasonable accuracy, whereby I may determine what portion of the £36 spent upon them in food was left behind in their excreta alone, in my sheds and dung-pit?

In one of my drawers is a pamphlet of Mr. Mechi's, in which he endeavours to prove, and does assert, that £1 given to pigs in beans will produce 20s. worth of pork. If true, who then could not make a fortune? But, unluckily, it is not true by a long way. On the table before me lies a pamphlet on guano, by Mr. Nesbit, wherein is written, "It appears to be clear that, unless the oilcake affords a profit by the beef or mutton, a more expensive system (than making dung by cattle) of manuring could not well be pursued." Mr. Mechi's chief object, if I remember right, in more than one publication, is to affirm the principle that success in farming varies directly with the amount of stock kept. On the other hand, we are told by a unanimous resolution

of the Botley Farmers' Club, "That where there is not sufficient dung for the wheat (?) crop, it is more profitable to purchase concentrated manures than dung; and that an equal amount of money expended in the purchase of concentrated manures will raise more wheat than the same amount expended in the purchase of oilcake or corn, and converted into dung by feeding cattle." As it stands, the resolution means nothing, and involves a fallacy, as no one ever supposed that £12 worth of oilcake would, after giving £8 or £10 worth of beef, still afford an increase in manure equal to one ton of guano; if it did even half this, the transaction would be largely profitable.

While the bullock feeding above alluded to was going on, I commenced another experiment, by purchasing for the benefit of two and a-half acres of light poor land intended for wurzel, fifty-four two-year-old Kent sheep, and feeding them very liberally in folds upon it. The sheep cost £93, and they consumed in three months cake, maize, beans, barley, and turnips, with hay and straw chaff to the amount of £44 4s., making a total cost, without hurdles and attendance, of £137 4s. I sold them out, chiefly at 5s. 8d. per stone in the wool, for £135; thus sinking £2 4s., besides interest, &c., for the manure obtained. It is very probable that both with the bullocks and the sheep rather better results might have been obtained, especially at the present excellent prices, had the total cost for feeding been spread over a rather longer period of time, but that does not affect my present object, which is to elicit if possible an accurate and trustworthy estimate of the value per week of the actual droppings of a medium-sized bullock and sheep while being liberally fed on cake and corn.

I need hardly occupy your space by pointing out how considerably farming practice, and the public supply of beef and mutton, would vary with, and depend upon, the answer to this question. On many a farm the annual account for artificial manures much exceeds the rent; can, or cannot the whole of that be saved, when meat is at a good price, by the increased manufacture of dung at home? The entire answer to this important question is to be found, by determining the manurial worth of the droppings yielded by a given animal, consuming a known quantity of food, and gaining a known increase in weight or value in a given time. Careful observation, troublesome investigation, and some chemical ability would be required, and such I know has been brought to bear upon this very point; can any of your readers favour me, and with me many others, with the result?

I am, Sir, yours obediently,

KENT.

THE IMPLEMENTS OF TILLAGE.

There are facts known to us leading to the belief that the rotary steam-cultivator will achieve, during the present year, something more like practical success than it has yet exhibited. At Warwick we may expect Mr. Naah's "Romaine" engine, Mr. Ricketts' Chester machine in a new form, and probably one or two novelties in the same line; so that the revolving digger will be likely to run the rope-traction implements rather close. And, as a farmer said the other day, "one of the whirligigs may, after all, beat both Smith's round-about and Fowler's long-range."

It is a happy circumstance, too, that while the Royal Agricultural Essay on Steam-cultivation is to give us "an account" of the measure of practical success hitherto realized, the Bath and West of England is to teach the clever mechanicians of the day what is "the agricultural object to be aimed at"; to tell them, in fact, what the farmer really requires to be done to his land in any operation which may supplant the present mode of tillage. Such teaching is very much wanted; for any one may see in the Patent Office "blue books" what great ingenuity and large sums of money are being expended in an utterly-wrong direction, owing to inventors being so often working industriously in the dark.

Now, Mr. Chandos Wren Hoskyns has done much towards enlightening the world on the subject of mechanical tillage; and his writings have had great effect, as far as they have been appreciated and understood. It will be well, therefore, to remind our readers of some of the principles which he long ago advanced, and they may have perhaps forgotten.

Up to the year 1849, steam-power had been proposed for ploughing and other traction operations; for rotary ploughing, forking, or scratching; for subsoiling; for levelling land; carrying loads of manure and produce; watering; mowing; for hoe or mattock digging; and perhaps we may say even for *destroying weeds*—as Winrow's invention, patented in 1838, and exhibited at the Oxford meeting of our Agricultural Society, in which a blast of steam, hot-air, or flame is directed upon the ground to kill or consume root-weed, shaken out of the soil by the Norwegian-harrow-like stirrers of the implement. But, hitherto, there had been no copying of the *spade*. In 1849, Mr. Hoskyns published the "Short Inquiry into the History of Agriculture" (read before the Royal Manchester Institution); toward the close of which work he criticizes the clumsiness and inefficiency of the plough upon clay land, and urges inventors to discard all traction-implements from their thoughts, and concentrate their attention on the action of the *spade*. Hereupon, several digging-machines made their appearance; and, though answering to part of the author's teaching, yet violating the rule laid down in the same pages, that steam-power invariably rejects old-fashioned tools and ap-

pliances, and supersedes them by methods of its own. Instead of simply learning from the spade what the process of digging essentially is—that it consists in the two acts of *inverting* and *subdividing*, the purpose being to admit the atmosphere—the mechanical world seem to have taken the advice literally, and aimed at working *the tool itself*, rather than at accomplishing *like results*. Instead of seeking to *invert* and *pulverize in any way best adapted to the power employed*, the inventors, over-ingenious for once, minutely copied the movements of a tool that is but one means (and the best for *hand-labour*) out of many by which these operations may be effected. And hosts of complicated machines for imitating manual operations (rather than simple revolving diggers, making a smooth, clean cut) have kept appearing up to the present time.

A quotation from his advice to inventors having been appended to an engraving of Lord Willoughby D'Eresby's steam-plough in the *Illustration Universel* (the Paris "Illustrated News") by M. St. Germain Le-duc, Mr. Hoskyns wrote an article in 1850, disclaiming all connection with steam "ploughing" at all, and demonstrating that the new power required a *circular* instead of rectilinear motion, and ought to abrade and comminute the soil in a single act, instead of laboriously tearing it up in lumps (as with the plough) for other instruments to operate upon. He proposed a revolving (not rolling) cylindrical rasp, driven by steam-power, at the tail of a slowly-progressing locomotive engine, as the best form of cultivator for cutting up a stratum of soil into a seed-bed; giving that inimitable word-picture of the "revolving Briareus," never to be forgotten by readers of the "Chronicles of a Clay Farm."

In the next year he complained of the delay and silence in which the question was suffered to rest, but deducing hope from the fact that many minds were full of thought about steam-cultivation. He then proceeded to analyze "cultivation" itself into its simplest elements, to infer the readiest pulverizing process from the action of animal claws, and, finally, to warn inventors against the fallacy of a *traction* implement for steam-power, and the "redoubled solecism" of *rolling spades*. In a subsequent letter Mr. Hoskyns excuses his four months' silence on the subject by saying, "I would rather the subject developed itself; as *I am sure it will*. I have a sort of mysterious, indescribable faith in *slowness*. Everything great and true in its time has been hard at the birth. And I have a heavy, troublesome, leaden conviction on my mind, that won't give way, by day or night, that my idea on this same subject of steam-engine agriculture is utterly true." If slowness were the sole qualification indispensable to success, then indeed is our triumph sure; for now, after the lapse of nearly five years since the above propositions aroused

the attention of the agricultural world, we have arrived very little closer to a realization of rotary tillage. Powerful inducements to effort have existed long enough. "I am a farmer on a very large scale in Jamaica," writes a correspondent to Mr. Hoskyns, "having four estates cultivated on my own account, and nearly thirty others over which I have control. There we put from eight to fourteen oxen to a plough, with four people in attendance; and many good agriculturists of this country who have gone out to manage their own estates, or those of others, have tried in vain to improve on this abomination. We have a most independent peasantry to deal with, who have us completely in their power, and work or not as their fancy takes them, and on their own terms; for Nature is so productive, and land so cheap there, the stimulus to exertion is wanting. You may conceive, then, the cost of ploughing and pulverizing an acre of land; and when the idea of doing this by steam has been talked of, I have always said, 'If steam can compete with one man and a pair of horses here, what would it do in Jamaica against twelve oxen and four people, moving half an acre a day?' for in some parts of the island not a man is seen in the fields after mid-day. I cannot grow the sugarcane properly unless I can give the land a garden culture. My principal estates are a rather strong clay, on limestone rock, and at various depths. Had I an instrument such as you describe, I could grow three hog-heads of sugar where I now grow one. Coals with us are little dearer than in London: we get them nearly freight free." The steam plough of Mr. Fowler, and the steam grubber of Mr. Smith, we believe, have both commenced operations in the West Indies since this was written. In Australia, too, a steam cultivator would be a priceless boon; not so much on account of the oxen employed, which are cheap enough, but because human labour is so enormously dear: and it is deep trenching that is particularly wanted there for vineyards and garden grounds. Many lands upon our globe are waiting, indeed, as patiently as our own English clays, for deep steam-digging to develop their latent power of production. America, we know, is busily trying for steam-power cultivation.

After another interval, we again find Mr. Hoskyns, in a contemporary, satirising the impotence and prejudice of the agricultural mind in relation to this subject. "Improvements in the existing implements of tillage," he exclaims, "are of course amazingly numerous: a revolution impending over tillage itself is the last thing dreamt of. Men look upon the steam engine rather as a piece of concentrated horse-power to be harnessed to the existing horse-worked implements, than as a new agent, whose entry on the scene of action enables us to reconsider the whole philosophy of tillage, to analyze it into its elements, to see what it is; what it has been, when confined to manual power under the primeval dynasty of the spade and hoe; what it is under the advanced but equally special limitations of animal power, as exhibited in the plough and every other implement of draught; and what it might be under the wider sphere of available

process which the steam engine presents. * * * It is somewhat strange, too, that when modes of tillage already exist, so totally and specifically different in action from all horse-worked implements, as those both of the spade and its more ancient congener the hoe, the perpendicular and very effective action of these tools, contrasted with implements of draught, has not dimly suggested the possible discovery of other means of cultivation as different from all of these as they are from each other. * * * Any one who has ever seen a nutmeg rasped away into fine atoms against the surface of a grater, or sawdust scattered in heaps from timber by the teeth of a circular saw, and can find room in his imaginative faculty for the contemplation of this mechanical process, side by side with the agricultural fact that a seed-bed is only a layer of comminuted soil a few inches in depth, might surely save the credit of his generation by some more congenial suggestion for the effectuating of tillage by steam-power, than attempting to bind it down to an apprenticeship in which ploughs and harrows, rollers and scufflers, or even the spade, are still to figure as the rude terms of the indenture. * * * There are not wanting heaps of patents and pretensions, crowding in confused succession on the public notice. There are plough-dragging engines—stationary and locomotive, 'ploughshares on circular frames,' 'revolving spades,' the production of would-be discoverers, who never devote one serious hour of study to the simple elements of the problem they undertake, the mechanical act to be accomplished, and the mechanical means necessary to accomplish it; but, taking a plough and a steam engine, or a spade and a steam engine, as the inevitable sire and dam of the fore-determined 'cross,' plunge headlong into the labyrinth of complex and solitary contrivance how to join things which Nature has put asunder. * * * We have called aloud: will no man hear? We have piped often: will no one dance?"

In the same year the publication of "*Talpa; or the Chronicles of a Clay Farm*," gave wider circulation to these opinions and deductions; and in this work the author expressly guards himself against an objection which many individuals considered as altogether overthrowing his idea of a steam-driven cylinder. Rasping a fine seed-bed out of the solid would be useful in some cases; but the cohesive properties of clay soil, and the effects of different kinds of weather, render necessary a division of the ground into clods rather than into dust. Howbeit, Mr. Hoskyns, while recommending us to consider the greater influence of manure, &c., upon earth pulverized more minutely than we have been accustomed to see it, suggests the principle of the revolving tiller as applicable for cutting the soil into any pattern of coarseness or fineness we may please—with a rapid motion for the latter, and a slow one for the former quality of work.

The principles have not lain dormant, but, working in many minds, have produced a series of inventions for scratching, rooting-up the ground by rotating screws, &c., &c., with only a few really sensible attempts at performing a reasonable process of tillage by

the revolving method. For, alas! as the finest yeast may prove abortive under a mismanaged fermentation, so, in unskilful hands, these writings evolved, instead of a cheering spirit, only sour and bitter disappointment.

This year, however, we trust will either secure the practical success of the two or three rotary cultivators which have already commended themselves in the field, or else inaugurate the triumph of something still newer and more effectual.

DO WE WASTE OUR STRAW?

SIR,—Mr. Mechi has addressed a letter to several newspapers on what he calls the waste of straw in using it as manure, and he invites discussion. With your permission, I shall make a few remarks on the subject; and I certainly do not join in that "shout of laughter" which Mr. Mechi says his suggestion has raised, being too anxious to gain any information by which farming highly-rented land can be made to pay, to laugh at any idea propounded with that intention. First, let us see what Mr. Mechi proposes. At present (at least in the low-lands of Scotland) the whole of the oat and bean straw is consumed by cattle and horses, whilst the straw of wheat and barley, or about two-thirds of the grain crop, is used as litter, and trod down into manure. Mr. Mechi proposes that all the straw be chopped down and given, with cake and turnips, after being steamed, to cattle. Thus three times the present number of cattle would be required on every farm in the kingdom. Some experiments, successful on a small scale, would defeat themselves if very largely extended. Mr. Caird, M.P., published a pamphlet some years ago, showing how much money had been made on a small farm, by growing nothing save wheat and potatoes; and he urged every farmer in the empire to adopt the system. Another theoretical agriculturist suggested that all the produce of a farm, roots and straw, should be sold, and manure bought, because he found the plan succeed in the neighbourhood of a great city. Both seemed to forget that a general adoption of their proposals would at once have destroyed the value of the articles grown. That Mr. Mechi's ten Irish bullocks will be profitably fed according to his plan, may be possible; but a sudden increase in the cattle of the kingdom to the extent of three hundred per cent., would somewhat reduce the price of fat beef; whilst I may ask, where are the lean cattle thus fed to come from?

Mr. Mechi gives no data by which to judge how his cattle pay him; but it is clear they cost him a good deal. The capital required to erect wooden cages (for I presume the boxes in which they are fed are such) and the steaming apparatus must be considerable. The cost of attendance must be great. I imagine the manure is daily removed. Where is it put? or how is it disposed of? If stored in the open air it will rapidly waste: if put under cover, here is another expense. No doubt rich manure will be made where so much cake is consumed; but while the quality is improved, the loss in quantity will be immense. Mr. Mechi must therefore charge the straw in his estimate of the weekly expense, and his £9 Irish cattle will therefore cost him, according to his own showing, 7s.

1½d. per week each. Mr. Mechi has made a material arithmetical mistake in summing up the prices of the various items, as he cannot mean that 4s. 7½d., the sum of his figures, is "in round numbers 3s. 6d." Now, the whole point of the matter is missed, by Mr. Mechi failing to tell us how soon his £9 cattle ought to be worth say £18. Cattle are in a great measure fed in Scotland on turnips and straw alone. Many farmers who do not choose to buy cattle take in those belonging to others, at rates varying from 3s. 6d. to 5s. Animals costing only £9 would probably not be charged more than 3s. 6d. The profit to the owner of cattle thus fed upon turnips and straw varies of course with the market price of beef; but less than 5s. per week is considered poor payment: 7s. is common, and 10s. not at all uncommon. There is, besides, a large mass of dung ready for spring use, or to be carted out in autumn. So far as I can calculate from the facts stated by Mr. Mechi, no such profit can by any possibility be obtained from his very extravagant mode of feeding. In conclusion, I would draw attention to some of Mr. Mechi's incidental remarks. He says, "his farming friends would stand aghast were he to propose that they should plough-in their feeding cake as manure, though the folly and error of doing so would be only equal to that of ploughing-in straw." Why, do Mr. Mechi and his farming friend, never use that very rape-cake he feeds his cattle with, as manure? or do they not know that thousands of tons are so used?

With regard to straw, Mr. Mechi seems himself rather at sea as to its feeding properties. In one place he tells us "that straw in an unprepared state is not in an available condition for food," and that cattle are "restless and dissatisfied when they are given that straw dry and chopped;" and yet he tells us elsewhere that straw (dry of course) "contains seventy-two per cent. of muscle, fat, and heat-producing substances!" In the first place, cattle like and require dry straw, and if chopped so much the better, to balance the amount of fluid which their root diet conveys to their stomachs; and as to their "not lying down contented when they have fed," I must differ from Mr. Mechi as to the fact. On the other hand, neither Mr. Mechi nor his friend, Mr. Morton, will convince me that straw is such very fat-producing an article. Chemists have proved many useful and wonderful things of late; but when Mr. Mechi quotes Mr. Voelcker as to straw, and when I read, as I did lately in *Blackwood's Magazine*, that water contains more nourishment than porter, I am astonished that cattle are so obstinate and so stupid as not to get fat on a diet of these two excellent things

together, straw and water. The Marquis of Tweeddale tried Mr. Mechi's plan of feeding cattle on sparr'd boards, and was entirely dissatisfied with the results.

I doubt so heavy an animal as an ox being comfortable when forced to stand for ever on hard wood; but with regard to the mess Mr. Mechi provides it, I have not a doubt of its excellence: I object only to its expense. And then the grand question of the manure remains. An ox will not, on Mr. Mechi's plan, produce more manure than is put into him. Let Mr. Mechi then calculate its value, and measure it with that of the wheat and barley straw of the farm, plus the roots and cake that have been eaten over it, and let us strike a balance both as to the cattle and the dung.

I am, Sir, yours, &c.,

May 21, 1859.

A LOTHIAN FARMER.

SIR,—I note in your last week's impression a letter with the above heading; and, without any idea of parrying weapons either with the author of it, or with the party attacked—Mr. Mechi—I beg the insertion of a few remarks as a means of provoking discussion, and tending to bring out the facts of the matter. So much as I can remember of Mr. Mechi's letter, to which the "Lothian Farmer" refers, it was certainly wanting in sufficient data as to the cost and returns of his steaming operations to enable any reliable conclusion to be come to as to its profitableness, or otherwise. But the great authority on the subject—Mr. Horsfall, of Burley Hall, Yorkshire—in his able papers in the *Mark-lane Express* and elsewhere, gives a full and clear account; and, so far as I can gather from his papers, his leading object in steaming is to present straw and other cheap foods in such form as to be consumed in larger quantities than they otherwise would if given in an uncooked state to cattle, and by which means a small weight of roots, with a certain admixture of steamed food, produces equally as favourable results as if the cattle had roots *ad libitum*.

In the Highland Agricultural Society's Journal there are statements by Mr. Hope, Fenton Barns, and others, to the effect that, in a lengthened course of feeding, cattle supplied with roots to the extent of 170lbs. to 180lbs. per day, with straw, gain in weight, on an average, 14lbs. per week. Valuing the roots at 8s. 4d. per ton, the cost for roots would be about 4s. 5d. Mr. Horsfall produces as much beef from 60lbs. of roots per day, with a mixture of straw, rape-cake, malt-coombs, and bran steamed, and given in the following proportions: rape-cake 3lbs., malt-coombs $\frac{1}{2}$ lb., bran $\frac{1}{2}$ lb., and at a cost, without charging for steaming, of 3s. 6d. per week. The expense of steaming I cannot very clearly make out; but I think he inclines to balance the extra cost of steaming with the superiority of the manure made by the consumption of so much cake, &c., with the small amount of labour involved in feeding on uncooked roots. But, whatever may be the expense of steaming—and which will vary considerably in different localities—it almost seems that the labour occasioned by the system must be less than feeding with such enormous quantities of roots. The haulage and slicing constitute

by far the greater part of labour involved in cattle-feeding; and when, by the new system, only about one-third of the roots are required, the cost of attendance cannot be such a serious affair as the Lothian farmer imagines. And, without impugning the statements of Mr. Hope, &c., I may add that I have never seen cattle make such progress on straw and turnips only. The result of the experience I have had is, that if with 4lbs. per day of cake or meal, in addition to what roots they can consume, they gain 14lbs. per week, I consider them to be progressing very favourably; and this, added to the already balance in favour of steaming, shows it to be very considerable. On the other hand, I must add that the little experience I have had with steaming does not at all correspond with Mr. Horsfall's success. Some years ago, when I had the management on the home-farm of a noble lord, he was wishful to try steaming; and though he got steam at an almost nominal cost, yet it was neither so cheap, nor so ingeniously procured as Mr. Mechi's. A pipe was carried from the boiler of a fixed steam-engine through the wall to an adjoining house, where were placed two large wooden boxes filled with material to be acted upon; and, on the man leaving for dinner, he pumped into the boiler some extra water, and added to the fire a few extra pounds of coal, and turned the steam through the pipe to the steaming-boxes. And by the time he returned from dinner the cooking was completed, and the same operation was gone through at night; and, with the engine being at work generally three times during the week, there was always a means of steaming at a very trifling cost. The first difficulty was getting the cattle to eat the steamed mixture—a difficulty Mr. Horsfall says he never has. The result, on the whole, was so unsatisfactory that the attempt was not renewed the following season. In detail, however, we proceeded somewhat different from Mr. Horsfall; and the chief objection was, the cattle never seemed to relish the mixture. The cost was trifling indeed. What is wanted is a thorough ventilation of the subject; and any practical man trying Mr. Horsfall's method, and publishing the result, would confer a boon on his brother-farmers.

W. J. MOSCROP.

Forest Farm, Wetherby.

HOW THE BEAN CLIMBS THE POLE.—Professor Brewer, of Washington College, Penn., communicates to the *American Journal of Science and Arts* the result of some experiments made by him on climbing vines—the hop, the Lima bean, and the Morning-glory. He finds that they will climb around a transparent glass pipe just as well as anything else, and that they are most ardent in their embraces when the pole is warmer than the surrounding air. During the day, the vine is attracted towards the light, but at night, and especially on cool nights, it turns to the pole. He learned, also, that the colour of the pole makes no difference; the caressing instinct of the vine has no prejudice against any shade. The element of constancy is very largely developed, the vine, after it has reached its pole, showing a much stronger tendency to wind around it than it did before to reach it.

A PRACTICAL PROBLEM.

Six.—If you will insert the following few remarks in your next number you will oblige.

In the able paper read by Mr. Bond, at the Ipswich Farmers' Club upon the "Profession of Agriculture, &c." there is certainly very much which every farmer could endorse (more especially with reference to the diminutive magnitude of the pecuniary realizations, which he deplors in common with all *thorough-bred* sons of the soil); still there is one idea which it is difficult—to me at least—to reconcile *in toto* with other preconceived notions, and that is in connection with the malt-tax and the labouring man. He says—"To me it is perfectly clear that the poor man, with his difficult practical problem to solve—with his wife, children, and himself to be maintained upon his 8s. or 10s. a week—beer is a necessary comfort, rather than a superfluous luxury."

Now, to me there appear to be other "practical problems" arising out of this subject, which I can no more solve than I could the "labourer's problem," of how to maintain self, wife, and family upon 8s. per week? I have been a good deal puzzled with old Euclid's problems, propositions, &c., before now, but never met with a more decided poser than this would prove.

The first "problem" that presents itself to me—and which I submit to Mr. Bond, not being able satisfactorily to answer it myself—is, if the beer be such a "necessary comfort," in what tangible form do you propose to exhibit its salutary effects to those who are not sufficiently endowed with the "talent of observation" to discover them for themselves?

Secondly, I would ask for a definition of the term "necessary comfort," in connection with 8s. to 10s. per week?

Thirdly, Is beer a more nutritious and less expensive article of diet than solid food, that a repeal of the malt-tax should be so ardently desired?

Fourthly, If beer be more nutritious than solid food, wherein does its real nourishing property consist?

These are a few of the practical problems that present themselves intuitively, and which we should very much like to have satisfactorily solved.

I may just mention here that I do not exactly see how the beer can be so much cheaper than solid food; for we are told that an infusion of malt and hops in the proportion of 60 gallons of water to 4 bushels of malt and 4lbs. of hops will make a good beer; in round numbers it will require about 14 stone of barley to produce 4 bushels of malt. Now we might make a few *easy examples* in arithmetic out of this, to be placed alongside the "practical problems." For instance—

1. What will 60 gallons of beer cost at 2d. per pint?—Answer, £4.

2. What will a quantity of good wheaten flour, equal in weight to the barley in the beer (14 stone) cost at 2s. 6d. per stone?—Answer, £1 15s.

3. But supposing that, instead of having all this quantity of barley in the 60 gallons of water (as you would do if it were ground and stirred in as we mix the dinner for a pig), you only get 20 per cent. of it soluble, and that one-third of this is sugar, which will be converted into alcohol in the process of fermentation, what have you left? Answer: 26.13lbs.

4. If 26.13lbs. of extract of barley cost £4, and this be considered to be as nutritious as wheaten flour at 2s. 6d. per stone,

what will the extract cost per stone, and what is the relative proportion between them? Answer: £3 2s. 10½d. per stone.

The relative proportion as 1 to 17.15.

These and many other interesting little sums might be worked out with comparative ease by an arithmetician; but certainly these figures are no very satisfactory clue to the whereabouts of that superabundance of real strengthening constituents which the beer is said to contain over and above what is possessed by the flour. If it really does possess these strengthening properties, we think that the brewers must have found what the alchemists long sought, the philosopher's stone; which does not, however, turn every thing into gold, but into nutritious matter.

I am not quite clear either upon that part of the worthy lecturer's subject in which he dubs beer as "the poor man's especial beverage." In the agricultural districts it may be; but what of the thousands in our large towns and cities—or have they no poor? Down what class of throats does the 7½ million gallons of gin, manufactured in London alone, pass ere it gets into the town sewer? It appears, from all the information that we can gather upon the subject, that although beer is the "especial beverage" of the agricultural labourer, yet gin must be emphatically called the *drink of the people*. Therefore, reasoning from analogy, if the malt-tax is to be abolished for the benefit of the one, certainly the excise officer must also be banished for the benefit of the other. And we would bid those true friends of the people "God speed" in their labour of love, who are endeavouring to establish beet-root distilleries in this country; not, indeed, for their own pecuniary advantage, but for the public weal; thinking, as they do, that by introducing a cheaper spirit they shall thereby check that *evil spirit* of "nefarious adulteration" for which the spirit duty "offers a premium," in the same way that the malt-tax "offers its premium" for the same delectable commodity.

We trust that the spirit of philanthropy just kindled will effect much lasting good. Perhaps when we get beer and spirits for half what they now cost we shall not have so much drunkenness amongst us. Perhaps crime, too, will diminish, from the fact that individuals will be able to purchase what they want with the money they have left, after procuring the quantity of drink that they *really require*, instead of *prizing* it as heretofore—perhaps so.

I am, Sir, yours, &c.,

THOS. ROSE, jun.

DEATH OF A NORFOLK WORTHY.—Many of our readers will learn with regret the death of Mr. Richard England, of Binham Priory, Norfolk. Mr. England was a worthy scion of the country whose name he bore, and at public dinners in Norfolk frequently responded to the toast of the "Yeomanry of the country," in terse and appropriate terms. A few weeks since, Mr. England performed the melancholy duty of following to the grave the remains of his lamented friend Mr. Henry Overman, of Weasenham; and now he is himself numbered with the dead. His kindly face and portly person will be sadly missed from Norfolk gatherings.—*Norwich Herald*.

THE MALT TAX.

The course of time makes but few changes in the traits of national character. The historian Tacitus in those wonderful word-pictures of his, which place so vividly before the reader the manners and customs of men as well as the sequence of events, draws with a masterly hand those distinguishing features which in nations as in individuals separate one from another.

In the Gauls of his day we readily recognise the French of our own time; and in his portrait of the Germans (our ancestors) we are reminded of much that still belongs to the English character; viz., in their love of eating and drinking, but regarding quantity rather than quality; in calamity their tears soon dried, but their sorrow lasting; in their love of liberty; in their love of fighting; in their abhorrence of anything like deceit or meanness; in their respect for women—in all this we find a great resemblance to the English type.

But there is another feature in our Anglo-Saxon physiognomy which we have not named. Here it is, in the words of a well-known writer—

“Englishmen are proverbially slow in changing habitual ideas and modes of action; they love custom and hate novelty; and all the national characteristics are found intensified in the British farmer.”

The truth of this has long been acknowledged; and not unwisely when we wish to depict the national type do we produce on the canvass the well-known figure, the stout farmer John Bull.

But our staunch conservatism as farmers, while it makes us uphold and reverence our glorious institutions, sometimes prevents us from taking active steps in removing a long-established nuisance, although we acknowledge that such removal would be much to our benefit.

It is of one of these nuisances we would speak—the malt-tax. It has been attacked in the very excellent paper on “Agriculture practically and politically considered,” read by Mr. Bond, of Kentwell, before the Ipswich Farmers’ Club. He describes this tax as being hurtful and injurious to the poor man, the farmer, the landlord, and the nation at large. “To the hard-working man,” says Mr. Bond, “beer is a necessary comfort rather than a superfluous luxury.... The poor man has comforts few and far between; and I say, tax wealth, tax competency, tax the luxuries of the great and the luxuries of the middle classes; but in fairness and honesty spare the comforts and necessities of the poor, for if we cannot alleviate their lot, let us scorn to increase artificially their sufferings.”

We quite agree with the lecturer in his assertion that drunkenness would decrease if the tax were removed. A labouring man would not have the same temptation to get intoxicated at the beer-shop, where every mouthful of the deleteriously-adulterated liquor he swallows increases his thirst, if he could obtain his mug of home-brewed at his own cottage.

Who can wonder that the hard-working man, with his scanty fare, who tastes meat perhaps once a week (and all who know the state of our agricultural poor will know that this is no supposititious case) should sometimes feel a craving after artificial stimulant?

We all know the bad effects of the beer-house system. It has been pointed out in Mr. Fisher Hobbs’ pamphlet, “Landlord, Tenant, and Labourer.” We all know it is desi-

table that such a system should cease; but how is it to be removed? Not, O ye advocates of total abstinence! by passing a Maine-liquor-law in England; which would be impracticable. Not by setting out to convert labouring men to teetotal principles—an effort not to be laughed at; but which, while it converts tens, leaves the millions in their misery: something more speedy is required. Not by putting down beer-houses by Act of Parliament: an affair of some difficulty, which would interfere in vested and private property, and which would appear unjust to the poor while the drinking resorts of the higher classes remained open. But by repealing the malt-tax; by making beer cheap; by allowing the labourer to enjoy the wholesome beverage at his own fireside, surrounded by his children. Does any one suppose that making beer cheap would increase intoxication? We confidently affirm it would not. Does a man only get drunk when he can afford to do so? When a man is drinking, does he calculate how much it will cost him? The sad experience of thousands will testify that has nothing to do with it. The man who earns the least, the man who has the greatest number of children, will often spend most money in drink.

The desire for stimulant of some sort (Professor Johnstone in his popular work, “The Chemistry of Common Life,” assures us) is not peculiar to any country or any race of men; for, travel where we will, whether we traverse the volcanic plains of Mexico or climb the Cordilleras of the Andes, whether we visit the islands of the South Seas or sail up the mighty rivers of China, whether we visit the kraal of the African or the goat-skin tents of the Bedouin; we shall still find (he tells us) that every nation has its own particular beverage, intoxicating, narcotic, or sedative, which shows the universal feeling and practice of mankind to be in favour of stimulants.

No one but he who has lived in the country can know the strong liking an English labourer has for beer, as one of themselves remarked the other day, “We fellows will work longer for a pint of beer than for sixpence.” Nearly every farmer knows this by experience, and some have tried the plan (and found it pay them to do so) of giving part wages in beer; this way has its objections, which need not here be pointed out; but how much better it would be that a labourer should brew at home, have his modest cask of beer at the cottage, and carry his daily bottle to the field! We firmly believe that a labourer has as much control over his passions and appetites as any other man; give him the means of temperate enjoyment, and he will not abuse them. But the malt tax is also injurious to the farmer; I need not point out how injurious it is, for we all know where our own shoes pinch. As Mr. Bond says, we believe that “it curtails the growth of barley, lessens its consumption, lessens its price, and is a positive detriment to the profits of farming.”

The malt tax is injurious to the public at large, because it encourages the adulteration of beer by compounds and drugs (which, from their brutalising effects, may well deserve the last name of the catalogue into which they have been wittily divided, “table, able, lamentable, and classes of beer damnable”): “it drives men to the beer-shop, and, as a natural consequence, adds to the crime and pauperism of the kingdom; these, in their turn, add to the public, county, and poor’s rates generally.”

It may be said by some, “We agree that the malt tax is

injurious to the best interests of the community, and that it weighs heavily on the agriculturists; but the present is no time to ask for the repeal of a tax of five million pounds." We maintain, however, that expediency often tempts us to do wrong; and if this tax is unjust and injurious, which we hold proven, that there are many other ways in which the money might be raised without pressing unduly on any class of the community. But if any ask, What is to be done? we answer that each man who feels this tax oppressive can do something. Mr. Bond justly remarks, "If we suppose that any Government can remove grievances while we, the parties aggrieved, remain in Stoical indifference, or simply over a quiet pipe complain that our legislative friends don't befriend us—I say if this is the summit of our efforts, if this is the acme of our exertions, if these are the fruits of our deep convictions, if a passive inaction governs us—no matter how just our cause, no matter how great the wrong perpetrated, if we are too indifferent to attend to our own interests—no Ministry in power, nor the public at large, can or will befriend us." The lecturer goes on eloquently to show that farmers must *act*, working well themselves, and prevailing on their representatives to work for them.

We would offer respectfully one practical suggestion as a corollary to the above. Why should not a petition be got up through the kingdom for the abolition of the malt tax? Let the farmers' clubs, which so well represent the intelligence and thought of the agricultural community—let each club in its own district take the initiative in obtaining signatures, and the united petition of the agriculturists of England will prove to Parliament and people that the farmers of England know their rights, and are resolved to obtain them.

THE STRENGTH OF FOOD FOR CATTLE AND SHEEP, WITHOUT THE AID OF CHEMISTRY.

SIR,—Two years back, I travelled by rail from London to Wolverton with a very intelligent gentleman, who said that he had a shrewd experimental friend who was a great winter-feeder of cattle and sheep; and that he had proved to his satisfaction, by weighing the sheep alive, that 14lb. of the best oilcake was equal in strength to a peck of beans. A stone of cracked barley was more than equal to a stone of oilcake with common turnips. In his opinion, a pound of tares per day, upon white turnips, was stronger than a pint of any other corn. Beans and peas were very fattening, with turnips. Oats were fattening, upon clover or grass. Linseed oil proved fattening, with something binding. If memory serves me right, the gentleman said his friend had fed some North Devon worked oxen upon linseed oil and barley-straw, cut into chaff, and mixed with a pint of oil per day. The said oxen were not only fat withoutside, but full of fat within. Feeding oxen fat upon barley-straw and a little linseed oil is of vast interest and importance, not only to the feeder, but the breeder. The stranger agreed with me that there is yet but little known, compared with what is yet to be known; which our new implements in husbandry prove and show.

To keep pace with the times, it is reasonable, expedient, and profitable that every farmer's son should be taught agricultural chemistry, as being part of their business, or they will be greatly imposed upon by adulterations. In my opinion, in the year 1900 it will be as great a rarity to find a British farmer who does not understand or know the value of chemistry, as it is now to meet with a farmer who does, and that

the time is not far distant when a farmer not knowing chemistry may justly be compared to a pump without a handle.

The antediluvian system of farming is nearly worn out. The *Farmer's Magazine* proves my assertion, and that the wheels of Nature and of Time were never made to stand still or roll backward.

SAMUEL ARSEBY.

Millfield, Peterborough.

THE ARISTOCRACY OF ENGLAND, AND DURHAM CATTLE.

SIR,—The high and far-famed Durham cattle have not only proved themselves useful and ornamental, but the most profitable cattle of any sort or kind upon the face of the earth, and will soon find their way to all parts of the inhabited globe. The aristocracy of England, breeding them for profit as well as being ornamental upon their domains, will of course lead the foreign nobility to follow the example, profit being pre-eminent over fashion and mania, but when combined you cannot easily predict what an immense price the Durham cattle may advance to. Up to this time bulls have made 1,000 gs. and 1,900 gs. each.

The real Old English gentleman, I mean Sir Charles Knightley, has done wonders for the Durhams, by exhibiting droves of that breed, bred by himself, in Smithfield great Christmas market, which struck thousands of spectators, British and foreign, with admiration and amazement to see such handsome frames, fine bone, and lively countenances, with a quality of flesh second to none. The said nobleman, Sir Charles, did not aim at gigantic size, but at fine, firm, silky-grained, marbled flesh, which he obtained equal to the best Scots and Devons, and proved to be so, in the metropolis, when dissected.

The useful, persevering, forethoughtful, keen-sighted Louis Napoleon is doing wonders for France, by offering high premiums for the best cattle, sheep, &c., &c., that can be found in any clime, which is a fine example to all monarchs upon the globe. We read of Babylonian monarchs and ancient Persian kings awarding with their own hand premiums to the best cultivators of the soil, &c., &c.; but we do not read of ancient kings offering high premiums for cattle and sheep brought from all zones. The *Mark Lane Express* and the *Farmer's Magazine* have done justice to the Durhams, by proving that they are second to none for profit, and stating where the best herds of them are to be found.

S. A.

APIARIAN SOCIETY.—The first meeting of this newly-formed society recently took place at the rooms of the Entomological Society, Bedford-row; the Rev. S. Waud, M.A., of Rettenden, Essex, in the chair. The report stated that an experimental apiary had been established, and placed under the care of the Secretary, at Muswell Hill, to which the public were admitted by members' orders. Mr. Shirley Hibberd stated that numerous donations had been received for the library, and that it was the intention of the committee to institute lectures on improved systems of bee-keeping, and also to offer prizes to cottagers for the best examples of bee management. Mr. Tegetmeier described an entirely novel method of bee-keeping adopted in America, which the society was about to test at its apiary. Specimens of artificial comb, and various models, apparatus, &c., were exhibited.

THE BATH AND WEST OF ENGLAND SOCIETY.

MEETING AT BARNSTAPLE.

The West of England Society holds its Meeting this year under somewhat altered circumstances. It has travelled out of the line and rule of the conditions and attractions which have so far marked the signally successful revival of its operations. A laudable ambition has been evinced to do something more, and to extend into other branches the useful influence of the Association. At the same time a too ready willingness has been shown to qualify the force and weight of its proceedings as a purely, or at least an essentially, agricultural authority. It would almost appear, indeed, that this new feature were intended to compensate for any diminution in the interest attached to an old one. The public certainly read it in this wise. The marquee devoted to the exhibition of Arts and Manufactures were nearly always inconveniently crowded, while the long range of implement stands never yet commanded so scanty nor so listless a succession of visitors. We must by no means be understood as merely writing up to our own views here. We are, the rather, only recording a simple fact. From the inquiries we made from time to time, we believe the great body of these exhibitors never before had so bad a week for business at a West of England Show. Never even were the mere cross questions of the curious so few and far between; and this in the face of "as fine a collection of implements" as one of their own number, Mr. Shuttleworth, of Lincoln, had ever beheld. There may be many reasons for this apathy. Barnstaple may be an out-of-the-way place. It may be more of a grass than an arable country, with small fields and small farmers. Such people may be not supposed to care much about the best machinery, or of what use it is capable. And so they trudge off at once with their wives to admire the treasures from the South Kensington Museum, the water-colour sketches of their own beautiful neighbourhood, or the tempting knickknacks so charmingly displayed upon Mr. Mechi's stand. This may be the reason. Or, perhaps, they just take the manufacturers at their word. The construction of agricultural machinery is now arrived at such a pitch of perfection that it is hardly worth making any more trouble about such a matter. Everything is of the best, and everybody has got the best, as he is of course sure to tell you. When we want anything, we will send for it. In the meanwhile let us go and look at the Spangled Hamburgs, or walk through Mr. Acland's evergreen avenue, or buy a set of decanters, or a magic strop. We are open to correction. We are told one or two houses did a good trade. But we directly ask the exhibitors themselves whether, in all their experience, the implement department of a great agricultural meeting was ever attended with such little general interest and encouragement.

Still, it is not just to dwell thus early on the weak place of an otherwise most successful gathering. It must not be assumed that Barnstaple is really too out-of-the-way to bring people together. It must not be thought, either, despite its small inclosures and so on, that it has not in the district some of the material for making up a good show. On the contrary, the Barnstaple Meeting is the best the West of England has ever yet had. In that most direct test of sympathy and support, it is by some hundreds of pounds better than any of the previous anniversaries—Bath, Plymouth, or Newton. And, again, in perhaps the most important feature of a West of England entry, this has never been equalled. One might even extend the limit, and say, with the judges and others, that never before had so good a lot of Devon cattle been collected together. Such, however, was to have been expected. It was the very home of the sort, and it became something like a point of honour to prove what they really were. As a consequence, we had Mr. Quartly, Mr. George Turner, the Davys, the Mersons, Mr. Bodley, Mr. Hole, Mr. Buller, and other North Devon men, all in the field. These, moreover, were headed by an illustrious exhibitor, who came ready to fight them with their own weapons. His Royal Highness the Prince Consort, long known for his partiality for the Devons, made two entries of them for this meeting, and even in so strong a show succeeded in taking two first prizes. Had he been only able to find a thorough match for one of his pair of heifers, such a couple would have had, unquestionably, the call of everything on the ground. The pick of the two—Lovella—is well worthy of her name, and sure to be heard of again. She had all that beauty of head and neatness of form that no others ever show like the Devons. As it was, even tested on her own individual merits, the Prince's only succumbed to one other heifer—the first prize in the class of a year older. But after all, they are very much of a family. Both of His Royal Highness', as well as his prize two-year-old bull, although of his own breeding, are by The Zouave—a bull purchased of Mr. George Turner, from whose hard Colonel Hood is still continually replenishing that at the Royal Farm. The Prince's success was at once telegraphed to Windsor—a piece of intelligence in significant contrast to those despatches George IV. once awaited so anxiously, when a messenger galloped from the course at Ascot to the Castle with the result of each race as it was decided!

Notwithstanding that a special prize was offered for the best of the bulls, the cow classes were altogether superior. The dozen three-year-old heifers, amongst which Mr. Turner stood first and Mr. Quartly second, were all very deservedly commended by the judges; who, clearly went to purity, and blood-like expres-

sion for preference. In the aged cows they would scarcely have seemed to reason the same way; and the award was much canvassed by the local men, who considered that an unnoticed cow of Mr. Merson's, as well as another Mr. Quartly's, should not have been thus entirely passed over. It is only right to say that the awards were made under great difficulties. It rained hard from the hour the judges entered on their duties, on Tuesday afternoon, until it was time to give over, and we believe it was quite impossible to have many of the animals out. Some sort of similar protest was entered as to the best of the aged bulls, many going for Lord Portman's Palmerston. It certainly struck us, however, that Mr. Bodley's had all the best of it in the leading points of what a male animal should be. Palmerston, though not distinguished himself, had yet the credit of being the sire of Mr. Turner's very perfect heifer, as also of the best Devon bull of the other two classes. This was Mr. Merson's Prince of Wales, the best yearling at Cardiff last season, and that we then spoke of as the pride of his entry—fine in quality, thorough-bred in appearance, and a very model for the mould in form. He has by no means lost any of his good looks, but is still beautifully developing, without a symptom of coarseness or loss of character. With gentlemen carefully selected *not* from either of the two counties in which the Devon more particularly flourishes, it was thought either variety would have fair play—the pretty *petite* home-bred and reared, or the bigger, and, as many will say, the more useful beast when transplanted to the fat lands of Somerset. The prize-list will show that the exhibitors from the latter district had a very fair share of success; and we were really glad to see it. But it struck us there was not that same very apparent contrast between the two kinds we have occasionally noticed. And as the North Devons never showed their own “sign” more decisively, one might be led to suppose the other was fining back to him. In a word, there was not a discreditable animal in the whole entry—not one could the most fastidious have drafted away without damaging the effect of those long victorious red lines Mr. Spooner so happily referred to, in his response for “The Judges.” They withstood not only the general review, but equally well the careful call-over of every number on the roll.

The strength of the stock show centred in the natives, just as at Cardiff last year it did in the Herefords. There was an unusually short entry of the latter here, but with some very good animals amongst them. The prize bull, for instance, Mr. Price's Goldfinder the Second, is very well known: the first at Chester last year, and the second of his class at Chelmsford. He was also the sire of Mr. Perry's prize cow, as well as of Mr. Price's young bull and pair of heifers. In fact, all the Herefords sent were of high character, and mostly showing that improvement of late years so susceptible. Instead of the upstanding large-framed beast so well known of yore, a judicious cross of the grey with the red brings a more compact and much neater-looking sort, which have the further and now indispensable recom-

mendation of coming early to maturity. The old-fashioned Hereford took a long time to furnish. Goldfinder has quite this modern look, and Mr. Duckham, the editor of the “Hereford Herd Book,” exhibited a young bull, bred by Lord Berwick, that on the same showing really merited some public mark of approval. But the judges of the Devons and Herefords were very chary in their commendations, and, with the exception of one whole class of the former, distinguished nothing beyond the prize animals.

By comparison the Shorthorns were also not in great numerical force. Mr. Stratton, however, scarcely had it quite so much his own way with them as has been customary at these meetings. The opposition he had to encounter was far more formidable, and included some “terribly high-bred cattle.” Mr. Holland's prize bull, to begin with, has an indisputable pedigree, but he has not improved of late. The “Duke of Cambridge” is, in fact, but a plain-looking animal, with an indifferent head, and by no means a perfect form. As with his famous relative at Chester, his quality must have been tended for more than his symmetry to secure for him the pride of place. But it was in the cow classes, once more, that the strength of the entry was to be found, and the Hinton herd to be tried. Amongst the aged cows they well held their own, Matchless 4th being about the best-looking Shorthorn on the ground. She was second last year at Cardiff to a half-sister of her own; many—her owner amongst them—fancying she should have been first. Lady Pigot, who has been gradually coming on at these meetings, was second to Matchless with a cow bought of her old neighbour and Mentor, Mr. Jonas Webb. In the pairs of heifers her ladyship went to the fore with far more decision. One of the match-pair is direct from Warlaby, while the other turned out to be the pick of Mr. Wetherell's herd—Stanley Rose, for which three hundred guineas were given at the Aldbrough sale about a month since. At many meetings these would have been the lions of the day, but it was curious to mark how local taste and custom would tell. While the Prince's couple of Devons had a continual throng of admirers three or four deep around them, there were few, we believe, who knew that so famous a heifer as her ladyship's was in the show. In truth, the Durhams were not becomingly appreciated here; and, of course, most of the exhibitors of them were from a distance. The first prize young bull, indeed, was all the way from Ireland, where he was purchased last season by his present owner. He took, perhaps, more than anything in this division; and there was a good deal of nibbling for him, of course, at a strong rise on the figure for which Mr. Browne brought him over the channel. But Botanist is allowed to have improved amazingly on the Wiltshire pastures, where the Durhams always appear to thrive.

The long-wools had all the attraction of the sheep show. The entry of Leicesters was unprecedentedly good, with Mr. George Turner in as much force as with the Devons. His success, too, was not confined to his own animals, his second prize aged ram being the sire

of Mr. Potter's first prize yearling. It would have been imagined that such a lead must have ensured a good sale, but the Barton rams did not go off very readily when put up on the Thursday. We rather question whether the bustle of the show time is really conducive to a good attendance of buyers or bidders. People have so much more to do and see, and certainly during the time we were present Mr. Turner's salesman did not collect much of an audience. On the other hand, Mr. Davy of Flitton, in using the same means, disposed of some of his Devon cows at very satisfactory prices. But after all, there is nothing to be less depended on than the response to the challenge of an auctioneer. The state of the weather, the force of example, the peculiar humour of purchasers, have made or marred many a sale ere now, as such influences will again.

Mr. Beale Browne quite equalled Mr. Turner in his doings with the Cotswolds, the show of which, however, was very limited, but with some grand sheep amongst them. The shepherd of Sir Robert Throckmorton having found at Cardiff that his system of fancy clipping was hardly appreciated, had now no difficulty in taking all the prizes for the Southdowns, where the credit of the short-wools centred. In the other varieties, more or less peculiar to these meetings, were the Dorset and Somerset horned sheep: and, still closer identified with the Society, the Exmoor mountaineers. These, it may be remembered, created some sensation at Cardiff, but they were naturally even better represented at Barnstaple. Like their companions a-field, the Devon cattle, there never was such a show of them. The breed promises to come fast into fashion, on the strength of several recommendations. They are hardy and active, carry a famous fleece, and show still better when sheared. Their cross with the Leicester is said to be capital; while good judges pronounce them well worth cultivating for themselves alone. Mr. Merson is the most famous breeder of them, although Mr. Robert Smith is also doing much with them on Exmoor. The Brinsworthy flock, however, has been known there for more than a century.

But they cultivate another race of mountaineers on Exmoor, at least so we were assured last year, when it was threatened the entry of clever ponies at Cardiff should be excelled at Barnstaple. And the word of promise was by no means broken. This was indisputably "the feature" of the Meeting. Mr. Acland's exhibition of Arts and Manufactures—the very red lines of Devons themselves, all paled before the ponies. The first question every one asked was, "Have you seen the ponies?" Or, granting that, "Did you ever see such a lot of ponies?" There could be but one answer, for never was there such a show of them before. It was not confined, either, to any one sort. There was not only the Exmoor, with his beautiful head, wild eye, shaggy mane, fine shoulder, and flat leg—but the equally useful and almost as good looking Welshman—that well-bred, handsome, but unprofitable speculation "the racing pony"—the cleverest of Galloways—the neatest of cobs, without lumber and

with action. It was not extraordinary, perhaps, there should be some good specimens of the native breed; but the opportunity for comparison was truly wonderful. There was not a clever kind of pony, Scotch, Welsh, or English, but was at Barnstaple, and more than this, there was no such thing as the Shetlander to detract from the merits or the uniformity of the entry. It almost seemed as if some one of the many active gentlemen in the management had engaged himself in the selection of what should be exhibited, and what rejected. The Exmoors had still unmistakably the call. Mr. Knight sent three pony stallions, of so exactly the same style and character, that it was not until you saw them out that you could understand how the judges could separate them, or prefer one to the other. The crowning point of all was in this seeing them out, and "with the action of a pony" becomes more than ever a proverb. Mr. Wall, who went for the Welsh, had unfortunately over-done his pets in their preparation. A stallion pony was positively disfigured with fat; and there was scarcely one of his but would have shown better for a little more work. That beautiful miniature, sent by Mr. Blakemore to Cardiff last year, was here again in the Extra Stock class, as the property of Mr. Wall. The "talk," however, of the extra class was the famous Galloway stallion, "Bobby," three parts or more bred, with a dash of the Arabian to go back to. He has been brought out of Lincolnshire or Nottinghamshire by Mr. Robert Smith as a cross for the Exmoor pony—that is to give a little more size to the stallions. And certainly as far as good looks can go, his use is well warranted. But Bobby's character is even better still. He is the sire of many famous hacks in the districts we have traced him from, and some of the best of those clever cobs Mr. Milward annually brings up to Tattersall's have been got by him. One we believe was sold last year for two hundred guineas; while at the sale, on only Monday last, the highest price—a hundred and ten guineas—was given for one of his get, and four of his stock averaged over sixty guineas each. The only question is whether the cross with bigger animals may not gradually destroy the true character of the pony. But as it is, the Exmoor has been "improved" to the picture we now see. The original Moor or Mountain pony was a very different animal; with neither the size, power, nor handsome appearance of the present representative of the race.

Beyond the ponies, the horse show was not very remarkable: it seldom is at a West-country meeting. There were one or two useful cart mares, and a good Suffolk stallion, of a harder colour and closer build than is altogether the fashion. The young stock generally, either for heavy or light work, were below the mark, and some of the prizes were withheld. The two best hunting mares were more commendable, and the second had a very varmint, sneaking sort of look about her. The first prize yearling filly was one of her produce. But "the pull" here was with two-year-old cart colts, the first of which, Mr. Holland's, promises to furnish out into a great fine horse. The second

prize was preferred by many Devonshire breeders as more suitable, from his compact form and smart action, to the district he was in. Although entered as a pure-bred draught-horse, there was a certain style and character about him it was difficult at first to account for; but it turns out his dam threw her two first foals to a thorough-bred horse, and hence the effect of "the impression" so visible in this animal. His owner, Mr. Watson, has often materially strengthened these meetings with some hunting stock; but he had only this one entry at Barnstaple.

"The Council report there had been a larger number of entries in all the principal classes of poultry than had ever been exhibited before"; and we think they might have added a smaller one of pigs. A very successful cross of the Chinese and Neapolitan led off the large breeds, and beyond them the Berkshire had it all to themselves. In the small sorts the improved Essex were equally distinguished. Leicester sheep, Essex pigs, and their own cattle are the strongholds of the Devonshire farmer.

There is nothing like carrying out a principle, and the Council of the West of England Society cannot certainly be accused of anything like half measures. When the Implement Committee were requested to report on the relative merits of the prize and certificate systems, they did not stoop to unravel the Gordian knot, but boldly cut it in twain. They answered not merely—Let there be no prizes—but, Let there be no trials, no reports, no certificates, and, in a word, let us officially have nothing at all to do with the matter. At Barnstaple they fairly took the public with them. The steam engines were at work in the yard, and we have already noticed the extraordinary interest the spectators found in the proceedings! But the steam-plough, the reapers, the mowers, the rakes, and hay-makers, the horse-ploughs and the harrows were carefully ordered a long two miles off, where comparatively no one went to see them. We rode out one morning, and found some half-a-dozen sight-seers inspecting Smith of Woolston's cultivator; some dozen or two more were just leaving Owen's or Burgess and Key's new American mowing-machine, the impression, from the work performed, being altogether favourable. Then there was a reaper or two in action under proportionately excitable and encouraging circumstances; and ploughs and harrows, it was said, had also done some wonderful work. There was, indeed, a rumour of a series of local prizes, but no prize list was ever published. This would have been a breach of faith with the great implement makers. Then, these gentlemen, little and great, foreign and local, found they had got more than they wanted. "The Society did not take sufficient interest in the trials, and there ought to be reports, and instructions, and directions, and so on." "The abuse of a system should not be permitted to do away altogether with its manifest uses."

The middle-class or not very great men came to the almost general opinion that the non-trial plan would be productive of far more harm than good to them; while the little or local men spoke out in this wise:—

"NOTICE.

"As Prizes for Implements connected with the Bath and West of England Society have been discontinued, through the combination of the North Country Makers to the disadvantage of the Local Makers, I, as one perhaps who has won more prizes than any other manufacturer in this county of the above-named Society, am willing to test the improvements made since the last trial. I see no other way of doing so than by testing my portable engine now in the show-yard against any engine in the show, of corresponding power, for £10, notwithstanding all the largest makers are there represented."

"B. J. WEBBER."

Mr. Shuttleworth, in returning thanks at the dinner for the exhibitors, argued on the other side:—"He thought if there was any gentleman present who had hesitated to consent to the principle which the Society had adopted—that of withholding prizes from the implement exhibitors—he would consider that this exhibition had proved that the council had adopted the right course. It was a course which must now be adopted by all the great societies of the kingdom. They must recollect that the agriculturists of 1890 were not the agriculturists of 1859, and that it was an awful responsibility to fix upon any one man or half-dozen men to say which was the best machine. He believed that the farmers of England had got sufficient intelligence to judge for themselves of these matters, and that they did not want half-a-dozen gentlemen in any county to tell them what they required. The Bath and West of England had been considered the second society in England, but it was his candid opinion that it would soon rank as the first. It had given the key-note, and the Royal Agricultural Society of England must follow the example, or she would not stand where she now did. He had never seen better implements, and he had never seen better work performed."

This last sentence is particularly satisfactory, and on the strength of it we proceed to state that the following implements were at work during the week:—

The PLOUGHS of Messrs.		The MOWING MACHINES of Messrs.	
Reeves	Tasker Page & Co. (late Williams) Howard Ransome Maggie Wright	Owen	The HAYMAKERS of Messrs. Samuelson Ransome Smith & Ashby The HORSE-RAKES of Messrs. Samuelson Ransome Howard
Garrett		Comins	
Comins		Samuelson	
The HARROWS of Messrs.		Smith & Ashby	
Page & Co.		Howard	
Howard	The HORSE-HOES of Messrs. Garrett Comins The HARROWS of Messrs. Page & Co. Howard Wright Lyne (lever harrows)	AMERICAN RAKE of Rowell	The FARING PLOUGHS of Messrs. Snowden Vanstone Hancock's PULVERISING PLOUGH, And the STEAM PLOUGH of Mr. Smith, of Woolstone.
Wright		Rowell	
Lyne (lever harrows)		Rowell	
CLODCRUSHERS of Messrs.		Snowden	
Comins		Vanstone	
Maggie	The REAPERS of Messrs. Cuthbert (by Busby) Hellard (of Taunton) Kearsey (of Ripon)	Hancock's PULVERISING PLOUGH,	
The REAPERS of Messrs.		And the STEAM PLOUGH of Mr. Smith, of Woolstone.	
Cuthbert (by Busby)			
Hellard (of Taunton)			
Kearsey (of Ripon)			

Of course all these did the best work ever seen. This was very evident to all but two exhibitors of reapers, who challenged each other to a public trial. More extraordinary still, this was suffered to come off. The following is the award:—"Whereas a challenge having been made between Mr. Busby, the representative of Messrs. Cuthbert and Co., and

Messrs. Hellard, of Taunton, relative to the merits of their respective reaping machines, umpires were chosen to decide on their respective merits; now we, having, been chosen to act as umpires for the above purpose, do make and publish this our award; that is to say, that the machine belonging to Mr. Cuthbert did its work first, made the best work, and in less time, and with considerably less distressive powers to the horses engaged; and we therefore declare it to be the best machine. Signed for self and Mr. Forrester, the arbitrators first above mentioned, this 3rd day of June, 1859.—**JOHN SHAPLAND.** We noticed that the price of Messrs. Hellard's machine was £25, and that of Messrs. Cuthbert & Co., represented by Mr. Busby, was £22."

It is impossible to give the names of all the exhibitors, and we would rather, as heretofore, have allowed the prize-list to determine the selection; but the following were amongst them—Barrett, Exall and Andrews, Bentall, Brown and May, Busby, Cambridge, Carson, Clayton and Shuttleworth, Comins, Coleman, Eddy, Fry, Garrett, Hart, Hellard, Holmes, Hornsby, Howard, Humphries, James, Maggs, Page, Picksley and Sims, Ransome, Reeves, Richmond and Chandler, Samuelson, Smith and Ashby, Tasker, Turner, Tuxford, and Webber. It is but right to say that no prize placard was exhibited, but reference to former triumphs of course abounded in the catalogues distributed at the different stands.

The Arts Department has been added to the exhibition of live stock and implements, according to the new number of the Society's Journal, "to please the farmers' wives while the farmers are handling the live stock or discussing the merits of the implements—to promote the general trade of the district—to diffuse a taste for elegance and novelty of design—to make known the best productions of the West of England—to promote the sale of drawings and pictures by native artists—to replenish the funds of the Society," and so on. The farmers' wives, and the farmers themselves, for that, had certainly no lack of entertainment to please them even in other ways beyond the Arts Department. We never knew such a holiday week. There were balls, and dinners, and concerts, and bespeaks at the theatre, and regattas, and fireworks—all superintended by and crowned with the princely hospitality of the Mayor. He had a small party of four hundred to dinner one day; a "private" ball, with the general public invited, another; continual luncheon laid out, and the best of welcomes for everybody. The only difficulty was to becomingly associate the business and pleasures of the occasion, although all we met with had amply succeeded in doing so. As far as hearty support, well-directed liberality, and active co-operation are concerned, the Society has never made a better selection than Barnstaple.

PRIZES FOR CATTLE. DEVONS.

JUDGES.—S. Bloxidge, Warwick.

J. Buckley, Normanston, Loughborough.
T. Umbers, Wapenbury, Leamington.

The best Bull, above three years old.

The prize of 8 sovs. to John Bodley, Stockley Pomeroy, Crediton. (Monarch.)

The best Bull, not exceeding three years old.

First prize of 12 sovs., and Special Prize of 10 gs. as best young Bull, to James Marson, Brinsworthy, Northmolton. (Prince of Wales.)

Second, of 5 sovs., to W. Farthing, Stowey Court, Bridgewater. (Sir Peregrine.)

The best Bull, not exceeding two years old.

First prize of 10 sovs. to His Royal Highness the Prince Consort, Windsor. (The Colonel.)

Second, of 5 sovs., to T. Hooper, Heanton, Burton, Pen-truckstow, Devon. (Sir George.)

Third, of 3 sovs., to George Turner, Barnston, Exeter. (Prince Frederick.)

The best Cow in-calf or in-milk, having had a calf within six months of the show.

First prize of 8 sovs. to W. Farthing. (Nelly.)

Second, of 4 sovs., to Cecil Smith, Lydeard House, Taunton. (Florence.)

The best Heifer in-calf or in-milk, not exceeding three years old.

First prize of 8 sovs. to George Turner. (Vandine.)

Second, of 4 sovs., James Quartly, Molland House, South Molton. (Gem.)

The whole class highly commended.

The best pair of Heifers, not exceeding two years old.

First prize of 8 sovs. to His Royal Highness the Prince Consort. (Lovelia and Gardenia.)

Second, of 4 sovs., J. W. Buller, M.P., The Downes, Crediton.

SHORTHORNS.

JUDGES.—W. Bartholomew, Goltho Wragby.

W. Sanday, Holme Pierrepont, Nottingham.

The best Bull, above three years old.

The prize of 8 sovs. to Edward Holland, M.P., Dumbleton Hall, Evesham. (Duke of Cambridge.)

The best Bull, not exceeding three years old.

First prize of 12 sovs. to John W. Brown, Upcott, Swindon. (Botanist.)

Second, of 5 sovs., to Rev. G. T. Marker, Uffculme Vicarage, Callumpton. (Saladin.)

The best Bull, not exceeding two years old.

First prize of 10 sovs. to R. Stratton, Broad Hinton, Swindon. (Mentor.)

Second, of 5 sovs., to C. H. Abbott, Long Ashton, Bristol. (Ariel.)

Commended.—G. W. Blaithwayt, Dyrham, Chippenham, for Bull. (Monarch.)

The best Cow in-calf or in-milk, having had a calf within six months of the Show.

First prize of 8 sovs. to R. Stratton. (Matchless 4th.)

Second, of 4 sovs., to Lady Pigot, Chippenham, Cambridge. (Princess Saxe Weimar.)

The best Heifer in-calf or in-milk, not exceeding three years old.

First prize of 8 sovs. to C. Hardcastle Abbott, Long Ashton, Bristol. (Nonpareil.)

Second, of 4 sovs., to R. Stratton.

Highly commended.—Another of R. Stratton's Heifers.

The best pair of Heifers, not exceeding two years old.

First prize of 8 sovs. to Lady Pigot. (Empress of Hindostan and Stanley Rose.)

Second, of 4 sovs., to R. Stratton. (Matchless 6th and Roan Rosette.)

HEREFORDS.

JUDGES.—J. Buckley,
S. Bloxidge,
T. Umbers,

The best Bull, above three years old.

The prize of 8 sovs. to Edward Price, Court-house, Pembridge, Leominster. (Goldfinder 2nd.)

The best Bull not exceeding three years old.

First prize of 12 sovs. to John Williams, St. Mary's, Kingsland, Leominster. (Sir Colin.)

Second of 5 sovs. to Edward Price. (Shamrock.)

The best Bull not exceeding two years old.

First prize of 10 sovs. to Thomas Edwards, Wintercott, Leominster. (Leominster.)

Second of 5 sovs. to Lord Bateman, Shobden Court, Leominster. (Shobden.)

The best Cow in-calf or in-milk, having had a calf within six months of the Show.

First prize of 8 sovs. to William Perry, Cholestrey, Leominster. (Worcester Flower.) Only one entry.

The best Heifer in-calf or in-milk, not exceeding three years old.

First prize of 8 sovs. to Lord Bateman.

Second of 4 sovs. to William Williams, Red House, Ely, Cardiff. (Blink Bonny.)

The best pair of Heifers not exceeding two years old.

First prize of 8 sovs. to Edward Price. (Well-a-Day and Miss Coningsby).

Second of 4 sovs. to J. Williams. (Barmaid and Gaylass.)

S H E E P.

LEICESTER, OR LONG-WOOLLED.

(Not qualified to compete as Cotswold.)

JUDGES.—W. Bartholomew.

W. Sanday.

The best Yearling Ram.

First prize of 6 sovs. to Thomas Potter, Yellowford, Thorvorton, Devon (Leicester).

Second of 4 sovs. to George Turner (Leicester).

Third of 2 sovs. to George Turner (Leicester).

The best Ram of any other age.

First prize of 5 sovs. to George Turner (Leicester).

Second of 3 sovs. to George Turner (Leicester).

The best pen of Five Two-teethed Ewes.

First prize of 5 sovs. to George Turner (Leicester).
Second of 3 sovs. to James B. Corner, Longforth, Wellington (Leicester).

Third of 2 sovs. to J. W. Buller, M.P. (Leicester).

COTSWOLDS.

The best Yearling Ram.

First prize of 5 sovs. to T. B. Browne, Hampen, Andoversford.

Second of 3 sovs. to E. Handy, Sierford, Cheltenham.

The best Ram of any other age.

First prize of 4 sovs. to T. B. Browne.

Second of 2 sovs. to E. Handy.

The best pen of Five Two-teethed Ewes.

First prize of 5 sovs. to T. B. Browne.

Second of 3 sovs. to W. Smith, Bibury Fairford.

SHORTWOOLS.—SOUTHDOWNS.

JUDGES.—J. Beevis, Sydling, Dorchester.

W. Ridden, Hove, Brighton.

J. Whittaker, Bratton, Salisbury.

The best Yearling Ram.

First prize of 5 sovs. to Sir R. G. Throckmorton, Bart., Buckland, Faringdon.

Second of 3 sovs. to Sir R. G. Throckmorton.

The best Ram of any other age.

First prize of 4 sovs., and second of 2 sovs., both to Sir R. G. Throckmorton.

The best pen of Five Two-teeth Ewes.

First prize of 5 sovs. to Sir R. G. Throckmorton.

Second of 3 sovs. to R. N. Granville, Butleigh, Glastonbury.

SHROPSHIRE DOWN, OR HAMPSHIRE DOWN.

(Not qualified to compete as Southdowns.)

The best Yearling Ram.

First prize of 5 sovs. to J. W. Brown, Uffcott (Hampshire).
Second of 3 sovs. to George Harbin, Newton Sarumville, Yeovil (Hampshire).

The best Ram of any other age.

First prize of 4 sovs. to Ed. Holland, M.P. (Hampshire).

Second of 2 sovs. to J. W. Brown (Hampshire).

The best pen of Five Two-teeth Ewes.

First prize of 5 sovs. to John Moore, Littlecott Farm, Pewsey (Hampshire).

Second of 3 sovs. to J. W. Brown (Hampshire).

SOMERSET AND DORSET HORNS.

The best Yearling Ram.

First prize of 5 sovs. to T. Danger, Huntstile, Bridgwater (Somerset).

Second of 3 sovs. to F. Bond, Whiteclackington, Ilminster (Dorset).

The best Ram of any other age.

First prize of 3 sovs. to T. Danger (Somerset).

Second of 2 sovs. to F. Bond (Dorset).

The best pen of Five Two-teeth Ewes.

First prize of 5 sovs. to T. Danger (Somerset).

Second of 3 sovs. to F. Bond (Dorset).

MOUNTAIN SHEEP.

The best Ram of any age.

First prize of 4 sovs., and special prize of 5 gs. as best Exmoor ram, to James Merson, Brinsworthy.

Second of 2 sovs. to J. Merson.

The best pen of Five Two-teeth Ewes.

No entry.

The best pen of Five Ewes of any age.

First prize of 4 sovs., and special prize of 5 gs. as best pen of Exmoor ewes, James Merson.

Second of 2 sovs. to James Harris, Bittadon, Barnstaple.

HORSES.

JUDGES.—H. Fooks, Whitechurch, Blandford.

W. C. Spooner, Eling, Southampton.

H. Terrill, Meavy, Tavistock.

FOR AGRICULTURAL PURPOSES.

The best Mare and Foal, or in-Foal.

First prize of 8 sovs., Robert Gibbs, Carhampton, Dunster (black).

Second of 5 sovs., Sir R. G. Throckmorton (Suffolk).

The best Two-year-old Colt.

First prize of 10 sovs., Edward Holland, M.P. (Shire).

Second of 5 sovs., Richard H. Watson, Dorsely, Totnes (Gloucester).

The best Two-year-old Filly.

First prize not awarded.

Second of 3 sovs., William Smith, Bibury (Shire).

The best Yearling Colt or Filly.

First prize of 5 sovs., W. Smith, Bibury (Shire colt).

Second of 3 sovs., G. S. Poole, Bridgwater (colt).

HACKS AND HUNTERS.

The best Mare and Foal or in-Foal.

First prize of 8 sovs., Rev. G. F. Hodgson, North Petherton, Bridgwater.

Second of 5 sovs., Richard Passmore, Eastdown, Barnstaple.

The best Two-year-old Filly.

First prize of 5 sovs., Rev. G. F. Hodson—by Bowstring.

Second of 3 sovs., H. Baillie, Ash Hall, Cowbridge—by Sebastopol.

The best Yearling Colt or Filly.

First prize of 5 sovs., Richard Passmore (filly by Sextus).

Second of 3 sovs., H. Baillie (colt by St. George).

The best Two or Three-year-old Colt or Gelding.

First prize of 5 sovs., W. Gapper, Duddleston, Taunton, Somerset (colt by Bowstring).

Second of 3 sovs., R. T. Head, The Briars, Alphenington (colt by the Baron).

The best Mare Pony not exceeding 14-hands high.

First prize of 4 sovs., F. W. Knight, M.P., Exmoor Forest, Southmolton (Exmoor).

Second of 2 sovs., J. C. Wall, Redland Lodge, Bristol (Welsh).

The best Mare Pony not exceeding 13-hands high.

First prize of 4 sovs., R. Ogilvie, Barnstaple (Exmoor).

Second of 2 sovs., R. Cridge, South Aller Farm, Southmolton (Exmoor).

The best Stallion Pony not exceeding 14-hands high.

First prize of 5 sovs., J. C. Wall (Welsh).

Second of 3 sovs., R. Ogilvie (Welsh).

PIGS.

JUDGES.—H. Fooks.

W. C. Spooner.

H. Terrill.

LARGE BREED.

The best Boar not exceeding Two years old.

First prize of 4 sovs., William Bryant, Pitt Farm, Barnstaple (Chinese and Neapolitan).

Second of 2 sows., W. Hewer, Sevenhampton, Highworth (Berkshire).

The best Breeding Sow.

First prize of 4 sows., W. Hewer (Berkshire).
Second of 2 sows., Sir R. G. Throckmorton, Bart. (Berkshire).

The best pen of three Breeding Sows not exceeding nine months old.

First prize of 3 sows., W. Hewer (Berkshire).
Second of 2 sows., Rev. H. G. Baily, Swindon (Berkshire).

SMALL BREED.

The best Boar not exceeding two years old.

First prize of 4 sows., John Partridge, jun., Bow Crediton (Essex).

Second of 2 sows., George Turner (Essex).

The best Breeding Sow.

First prize of 4 sows., George Turner (Essex).
Second of 2 sows., W. D. Bragington, Knapp, Bideford (Essex).

The best pen of three Breeding Sows not exceeding nine months old.

First prize of 3 sows., Rev. S. N. Kingdon, Bridgerule Vicarage, Holsworthy (black).
Second of 2 sows., W. D. Bragington (Essex).

LOCAL PRIZES.

DEVON CATTLE.

The prize of 5 sows., George Lock, Instow Barton, for pair of steers not exceeding three-and-a-half years.

First prize of 5 sows., Richard Mogridge, Molland, Southmolton, for pair of steers not exceeding two-and-a-half years.
Second of 3 sows., R. Mogridge.

First prize of 4 sows., John Snow, Bude, Braunton, near Barnstaple, for cow in calf. Second of 2 sows., G. S. Burden, Kerscott, Swimbridge, Barnstaple, for cow in calf.

First prize of 3 sows., W. Langdon, Ashford, Barnstaple, for heifer in calf. Second of 2 sows., Henry Passmore, Ash Barton, for heifer in calf.

First prize of 3 sows., John Tapp, Twitchen, Southmolton, for two years old heifer. Second of 2 sows., John Snow.

First prize of 3 sows., John Snow, for yearling heifer. Second of 2 sows., G. S. Burden.

SHEEP.

The Prize of 3 sows., Robert Symonds, Buckland Barton, Braunton, for Nott ram.

First prize of 3 sows., Lord Clinton, Heanton Satchville, Beaford, for a pen of 5 Nott ewes. Second of 2 sows., James B. Torr, Westleigh House, Bideford.

The prize of 2 sows., James Harris, Bittadon, Barnstaple, for horned ram.

First prize of 3 sows., James Harris, for pen of horned ewes. Second of 2 sows., J. Harris.

First prize of 3 sows., C. Halse, Molland, Southmolton, for pen of five horned wethers. Second of 2 sows., C. Halse.

HORSES.

The prize of 3 sows., James Harris, for bay cob Frolic.

The prize of 3 sows., William Howe, Townsend, Braunton, for cart mare.

The prize of 2 sows., H. K. Bowden, Berrynarbor, Comhmartin, for cart colt.

The prize of 5 sows., W. J. Brewer, Barnstaple, Devon, for his thorough-bred stallion (Swinton) by Mulatto.

The prize of 5 sows., J. Harris, Bittadon, Barnstaple, Devon, for cart stallion (Snuffolk).

PONIES.

The prize of 4 sows., F. W. Knight, M.P., for Exmoor pony tallion, under 13 hands high.

The prize of 4 sows., T. J. Dennis, Bradiford Villa, Barnstaple, Devon, for pony mare, under 13 hands high.

PIGS.

The prize of 3 sows., A. Clement, Sloo Farm, Parkham, Bideford, Devon, for Essex sow.

The prize of 2 sows., Thomas J. Dennis, for black sow.

HIGHLY COMMENDED.

J. Merson, for a pen of mountain ewes.

The Rev. J. G. Coplestone, for a cart filly.

Thomas Brady, for a riding filly.

J. Merson, for an Exmoor pony mare.

J. A. Bude, for a mare pony.

Sir R. Throckmorton, for a Berkshire sow.

F. W. Knight, M.P., for two Exmoor pony stallions.

COMMENDED.

S. Kingdon, Lynch, Thorvarton, Devon, for a Leicester ram.
G. P. Hartnoll, Court Hayes, Braunton, Devon, for a Leicester ram.

T. B. Brown, for a Cotswold ram.

J. Moore, Littlecott Farm, Pewsey, Wilts, for two Southdown rams.

George Harbin, for a pen of Hampshire Down ewes.

J. Moore, for a pen of Hampshire Down ewes.

Jas. Merson, for a mountain ram.

T. Keable, Rowdefield Farm, Devizes, Wilts, for a cart mare.

R. Bucknell, Whitefield, Southmolton, for a cart colt.

Sir R. G. Throckmorton, Bart., for a cart colt.

John Anthony, Yealampton Mills, Yealampton, Devon, for a riding gelding.

W. Hewer, for a Berkshire boar.

Rev. John Huysh, Clythydon Rectory, Collompton, for a breeding sow.

Thomas Brailey, Bishop's Tawton, for a bay cob.

R. Symonds, Buckland Barton, Braunton, for a black sow.

EXTRA STOCK.

A prize of £4, Richard Pethebridge, Borough Farm, Barnstaple, for Devon bull.

A prize of £2, John Partridge, Bow, Crediton, for pen of Leicester ewes.

A prize of £2, James Merson, for pen of Exmoor ewes and lambs.

A prize of £2, George Elliott, Swilley Farm, Plymouth, for cart stallion.

A prize of £2, W. I. Brewer, Lichdon, Banstaple, for thorough-bred horse (Firebrand.)

A prize of £2 and the special prize of 5 guineas, as the best stallion pony, not exceeding 14 hands high, to Robert Smith, Emmett's Grange, Southmolton, for Scotland entire pony Bobby.)

A prize of £2, James C. Wall, for entire Welsh pony.

Highly Commended in Extra stock.—The Rev. J. Bond, Romauleigh Rectory, for pen of white Ducie pigs.

Commended.—J. Merson, for Devon cow, and W. F. Neville, for pen of Yorkshire sows.

ANNUAL MEETING.

The General Meeting of the members of the Society took place on Thursday, the president of the year, J. Sillifant, Esq., in the chair.

The minutes of the last meeting having been read and confirmed, the President read a letter he had received from Sir Thomas Dyke Acland, enclosing a cheque for £50, which he requested might be distributed as extra prizes among the successful exhibitors of cattle and sheep. The letter was received with acclamation, and a vote of thanks was unanimously passed to the donor.

Several gentlemen were then elected members of the Society.

Mr. MAULE, the secretary, read the report of the Council, of which the following is an abstract:—

The Council reported the steady increase of the Society. There was since the last annual meeting an increase of five governors, two life members, and 75 other members, making a total gain of 82. The Council reported that his Royal Highness the Prince Consort had been graciously pleased to honour the Society by becoming a member, an annual subscriber, and an exhibitor. There were 146 exhibitors of stock at the pre-

sent meeting; and the number of animals was: cattle 177, sheep 325, horses 55, pigs 35; total 592. The number of exhibitors of implements was 108, and about 1,080 articles were entered for exhibition in this department. In the portion appropriated to machinery in motion there were 18 exhibitors. The report stated that in January last the Council decided upon having an exhibition of arts and industry, and they had the satisfaction of reporting that the exhibition comprised one of the most beautiful collections of the works of art to be found in this country. The Council acknowledged the kindness of those who had contributed in this department, in which there were about 5,000 articles. They recommended that the place of meeting next year be at Dorchester. The Committee appointed by the Society, on the question of weights and measures, reported that they considered it desirable that a uniform standard of weight and measure should be adopted throughout the kingdom; that weight is the surest test of quantity as well as quality of grain; and that in any legislation on the subject it will be necessary to determine what weight of corn should be substituted for the imperial bushel, in ascertaining the averages for the purposes of the tithe commutation. The Council recommended that Lord Rivers be invited to accept the appointment of president for the ensuing year. The Council acknowledged the valuable assistance rendered by the various local railway companies in facilitating the objects of the Society. The Council reported that there had been a larger number of entries in all the principal classes of the poultry show

than hitherto exhibited. The Council congratulated the Society upon the hospitable reception they had met with in North Devon, and considered the thanks of the Society to be especially due to the local committee of management.

The adoption of the report was moved by Sir George Buckley, seconded by Mr. Thompson, and agreed to. Some explanations took place respecting a misunderstanding which existed as to the intention of the Council to recommend another gentleman in the county of Dorset, for the office of president during the ensuing year. The misunderstanding appeared to have arisen from a private conversation which took place between a Dorsetshire gentleman and one of the members of the Council, who attended as a deputation to make arrangements for the meeting next year at Dorchester.

On the motion of the President, Richard Bremridge, Esq., mayor of Barnstaple, was elected a vice-president of the society.

Mr. T. WILLS suggested that the report of the proceedings of the society should be circulated within six months of the holding of each annual meeting.

Mr. AGLAND, in reply, said the *Journal* had been ready for circulation during the past two years within six weeks after the holding of the meetings, but they could not be sent to members gratuitously although they might be had on application. He recommended that an editor should be appointed to superintend the *Journal*, which he suggested should then be published twice every year.

A vote of thanks to the president concluded the proceedings.

THE ENGLISH FARMER IN BELGIUM.

SIR,—I never knew any one in England grow "Jerusalem artichokes" on a large scale as food for cattle; I will therefore relate the proceedings and results of an agriculturist in France who has done so—M. Aristide Monterol—whose land is too poor to grow beetroots with advantage. So universal there is the opinion that all roots should first be manufactured into something in preference to consuming them in a raw state, that this gentleman grew sufficient artichokes to keep his small distillery constantly at work throughout the season, viz., three tons per day, and with the residue he fed his forty fattening bullocks and twenty stores. But I cannot do better than give you his own account, in the *Journal d'Agriculture Progressive*:—

"For these four years past all who are interested in agricultural progress have never ceased to proclaim an agricultural distillery an indispensable annexation to a farm, as it must lead to the increase of root cultivation, and consequently more abundant crops of corn.

"This is well understood and practised, and lucky is he who has erected one. I am happily so situated; and if I have not many acres of beetroots, I have abundance of Jerusalem artichokes, which answer my purpose as well, because they do not require such good land, produce heavily, and give five per cent. alcohol in distillation (equal to 9 gallons English at proof), and, above all, a residue, which is of the utmost consequence.

"Forage being so scarce for some months past, the

question has been raised, whether it is best economy to give our roots to the cattle in their natural state, or first distil them?

"My crop of hay (1858) was less than half an average; and having sixty head of valuable cattle, which I would not sell at present prices, it is of consequence to me to make the most of my fodder.

"I have not many *bête raves*, but plenty of artichokes, as, in spite of the dry summer, they perfectly succeeded. They were eleven feet high (English), and the roots produced twelve to fourteen tons per acre.

"Everyone knows *bête raves* raw are not good for cattle or sheep. Last year I saw the ill effects of them thus used on a neighbour's flock, he having lost many of his sheep, whereas I did not lose one, and they fattened most rapidly with the residue of my distillery.

"If I were to feed my cattle with my raw artichokes, what could I do with my barn full of cloverseed, stover, and rape husks and chaff of wheat and oats? Cattle will not do well on these alone, and I cannot afford to use these resources in this year of need. I shall be told, 'cook your roots, and mix these things with them.' True, I might do so; but I have forty fattening bullocks, among my sixty, which require better food. However, let us look at this cooking affair. First, I must erect a boiler at some outlay; then the roots must be washed, sliced, cooked, and when done mixt with the dry chaff, &c., and left to ferment for twenty-four hours: all this

would cost 4s. 2d. per ton. My register of expenses of distillation tells me this is exactly the cost of distilling a ton of roots. The amounts are exactly the same, but, by the latter, I have the sugar turned into alcohol, and the residue also; thus I get two productions instead of one.

"Now, how much nourishment for cattle have I from each process? I must have three tons per day. Does not the fermentation in the cooking process destroy some of the sugar? Most certainly it does; and the alcohol remains in the three tons to the extent of fifty-seven gallons (English), which is nearly a gallon of spirit in each cwt.

"Is alcohol nourishing for cattle? because if so, it opens the question, How much per day can each beast take with advantage?

"Practice has quite decided that raw roots are not more valuable than the distilled residue.

"If I cook my roots they lose in weight 10 to 12 per cent. By distilling they lose 25, *i. e.*, 15 per cent. more than by cooking. Let us examine if this loss is actual or imaginary.

"What is really the substance lost by distillation? It is the sugar in shape of alcohol; but it is not *all* alcohol; some of it is water, which constitutes this difference of 15 per cent. This water would have been useless to the cattle, and in its evaporation has not taken any of the nutritive parts of the roots with it. The pulp or residue retains then *all* the salts, the cellular, and albuminous parts, the fatty matter, and the azotes, which are really useful and nourishing to cattle. Thus in smaller volume the pulp contains the same value, and in my opinion this loss of 15 per cent. in weight is not of the least importance whatever.

"But let us for a moment admit it is a loss, and then consider if it is best to distil. Figures can only answer this question. I will continue my calculations on 3 tons. Thus

"If I cook my 3 tons roots at 8s. 4d., that amounts to	1	5	0
"Washing, cutting, cooking ditto at 4s. 2d.	0	12	6
	1	17	6

"And I have 2 tons 14 cwts. of food.

"If I distil my 3 tons roots at 8s. 4d.

"At an expense of course including washing and cutting of 4s. 2d.

1 17 6

"I have 2 tons 5 cwt. of residue, being 15 cwt. less than the raw root, which at 8s. 4d. per ton would be 6s. 3d., and 12s. 6d. is to be added for the cost of distillation. But what have I for this 18s. 9d.? I have 57 gallons of spirit worth £3 2s. 6d., and deducting from that the 18s. 9d., there remains a clear profit of £2 3s. 9d.; or if we add the 4s. 2d. per ton, cost of washing, cutting, and fermenting on 2 tons 5 cwt., which is already done for us when distilled, the profit would be £2 13s. 1½d., which would amount to a difference in my

favour of £398 8s. 9d. per annum—as I work 3 tons of roots per day, and the season lasts 150 days.

"I ask every sensible farmer if with these *facts* before him distillation is not the best method of obtaining profit from our roots, and *food for our cattle*?

"To repair the *supposed* loss of 15 cwt. of food, which is equal in nutritive quality to 3½ cwt. of hay, I must buy corn, as my neighbours have no hay for sale.

"I should buy rye, 155lbs., which would cost here 7s. 6d., and here I should have a balance in my favour of 1s. 10½d. per day.

"Thus both in quantity and quality (with the 15 cwt. *supposed* loss made good) of food the distilled roots are the best, and it is the most advantageous mode of preparing them for cattle. Even were the price of alcohol to fall one-third under its present value, I would continue it.

"My opinion is formed on my own experience reduced to figures, which every one may criticize, and if any one can show me an error I should be obliged.

"ARISTIDE MONTEROL."

The above letter is so clear an exposition of the facts adduced that I have given the whole of its matter condensed. I never read one which more clearly showed the manner in which the British farmer may understand how the juice of the succulent beet-root is better turned into gin than washed through our animals. Mr. Monterol is one of those cultivators who has a small distillery on his farm; and he therefore only charges 8s. 4d. per ton as the price of his roots in his very nice calculations. I find the agricultural experiments are carried on in a much more careful manner than in England, and more frequently also. Thus their agricultural journals are exceedingly interesting; and you can hardly take up one of them without finding one or more articles which would be gladly read by my countrymen.

There would be great difficulty in obtaining a sufficient number of subscribers to pay the expenses of it, or I would publish a monthly selection from all of them. They would be a useful addition to the agricultural shelf of any gentleman's library.

The leaves and tops of the stalks are useful as fodder in this country, where nothing of that sort is lost. Even leaves of trees are being applied to that purpose, and the leaves of the beetroot are being experimented on to discover if they can be preserved in salt. I know one gentleman so doing, and I will communicate to you, in some future letter, his results. When last I saw him, he told me he believed he should succeed.

The weight of stalk and leaf per acre would be very heavy; and if the roots were left till November, would make an excellent cover for game. Mr. Monterol does not say if he took them all up at once, or as he required them; but as the Jerusalem artichoke stands the frost, I do not see why they should not be daily raised as wanted. They require so little manure, the stalks, mixed with sufficient lime to decompose them, would be sufficient to keep up the crop; at the same time, like all roots, no doubt the more the dung the heavier the produce.

Tobacco is even cheaper in Belgium than in France. It is sown in beds, in March, very highly manured, protected from frost by long straw laid over the bed, and from cold winds by strawed hurdles. It is transplanted on the 25th of May. I gave full particulars of its cultivation in the June number of the *Farmer's Magazine* in 1858, page 533.

Cow Cabbage.—I know a man who carries out the cultivation of this most productive plant to a further extent than any one else I ever met with. He preferred the great drum-head cabbage, which forms a solid hard globe of food, to the variety which many like here, which grows high, and with an abundance of leaf. It is called the "northern-curved cabbage," and stands frost well. In the spring they cut the top, and allow it to shoot again.

A quarter of a pound of seed is sufficient to produce plants for an acre, at distances of two feet by two and a-half. My friend at first plants his much thicker, thinning them by degrees; and by growing a succession of crops he has a supply all the year round nearly: and certainly a most extraordinary weight he produces per acre.

He sowed his first batch in April, to be transplanted in June. In dry weather he had that part of the bed well watered, the night before, where he wished to draw up the plants for the morrow, and then soaked the roots in guanoed water till planted, being careful the roots were not doubled up: which is prevented by giving the plants a slight scratch upward after the first pressure of the earth to them. This crop he only planted at such distances as he wished them to remain till perfect in growth, viz., two feet in the row, and three feet from row to row. The time of transplanting being the height of summer, he wished to have the intervals free, to enable him to clean the land. If the weather is dry, the plants should be watered at the time of planting. This crop he used as he wanted it till the spring, when, being finished, he had his other crop.

This one was sown in June, to be transplanted at nine inches each way after harvest, as the market-gardeners plant their "collards" near London. The land cannot be too highly manured, as the more rapidly they grow the better, not many weeks of growing weather being left for them at the autumn-end of the year. As they become too close, every other one is taken out, and used for sheep or cattle as required; and when spring commences, and all other cabbage and turnips are consumed, he then again takes them as he prefers—every other row, or every other cabbage, or wholly clearing the ground.

The grand secret of growing the numerous green crops they have abroad, occupying the ground but so short a time, is the heavy coats of manure they put on for them. We are not nearly so careful as we ought to be, to economise every sort of offal which can possibly be turned to advantage as manure. We never, I expect, can use the liquid manure of towns as they do; it is contrary to our ideas of delicacy or health, as we are only anxious for our town-drainage to run off as quickly as possible, whereas they allow the most offen-

sive to remain in the house-cesspools till they are full, when men come round with large butts on wheels, and purchase it. They have a long leather hose and a small patent pump, and quickly, and without much offence to the olfactories, empty the cesspools into these butts. In the large towns this is done by dealers, who, after adulterating it with water, sell it to the farmers, who carry it sometimes as back-carriage in casks, with large bung-holes stopped with straw. They cart it into the fields, and at certain intervals empty each cask into a tub, and from that tub spread it by means of a small bucket at the end of a long pole. Thus the whole field is gone over as equally as possible; and they generally give two such dressings to each green crop. Farm-yard liquid they use in the same way, which has less rain-water admixed with it than in our farm-yards, because their buildings are smaller, and shorter in the roofs; consequently they have not those heavy flows of rain-water which we have from our so frequently unspouted eaves, and, also, there is not so much rain falling there as with us. I once had a farm with a manure tank in the centre of the yard; more rain certainly ran into it than I could wish, and for that reason I will not say it was a fair trial of liquid manure. But, allowing for its reduced quality, I certainly was disappointed at the result as I carted it on a piece of clover; and I never could see any benefit from it.

I had a friend who *burnt* his weedy hedge-rows and brows, and any other spare earth, and filled a shed with the ashes, on which, with troughs and a pump, he conveyed every few days the contents of his tank. The ashes absorbed the liquid, and it became a most excellent and *portable* manure. I do not think there is at present a cheaper or better mode of using our farm-yard drainage, which is not worth the expense of carting in its liquid state, and still worth too much to be lost.

I will finish the cow-cabbage by saying it will produce more weight per acre than wurtzel, with *much less exhaustion* to the land; and I am only surprised they are not more generally grown. It still, with all our improvements, takes time to overcome prejudices; but I fancy nothing would tend more to destroy them, and introduce useful "innovations," than the present price of wheat.

Gigantic Sainfoin, or, as they call it in Belgium, "twice-cutting sainfoin," they sow three bushels to the acre, in the husk. They consider it requires better land than the common, and that it should only be sown on the same land at intervals of at least ten years.

This crop is of course well known in England, but not so much grown as it ought to be. Some twenty years ago a little of this seed was discovered in the loft of a corn-dealer at Royston, in Herts; he did not know how it came there. It was sown; and from that very stock it was distributed over England: but whether it originated from Belgium, or the Belgian sort from that, I cannot say.

Winter Colza, or Rape.—This is, of all others, a crop applicable to us. It does not draw the land; it occupies it but a few summer months, enabling a second

crop to be taken. It is always saleable; and, moreover, the oil is more likely to rise than fall in value in time hence, as every year the number of oil lamps increases.

It is sown from the 1st of July to middle of August, at the rate of five quarts to the acre; this producing sufficient plants for three acres. In the autumn it is transplanted on the stubbles, which are ploughed deeply, and laid very dry, by cleaning out every furrow as a water-furrow. They even spade them out, and throw the earth on to the "lands." They are planted at one foot from row to row, or a little more; and from four to six inches in the row. The ground is not harrowed, but left rough all the winter. In spring it is hoed, but it very soon shoots beyond the hoe; and in June, or beginning of July, according to the earliness of the season and land, it is harvested. It is fit to cut as soon as the pods begin to turn yellow.

It is thrashed in the field. The chaff is used for mixing with the residue of the distilleries, and the straw is used for litter. Three quarters per acre may be calculated on, if well done and pretty good land; though very much more is sometimes grown on the rich "polders" of Belgium—this is that district running along the coast from Antwerp nearly to Dunkerque: I have heard of as high as five quarters.

No crop is grown with less trouble; it is not an un-

certain one; and very profitable. It may be succeeded by cow-cabbage or white turnips the same year.

I wonder it is not thus grown for sheep feed, in the spring, in England. There is no plant, under this method of growing it, so early; and, unlike white turnips, it does not become woody. It may even be eaten down, and afterwards allowed to stand for seed.

The rapeseed contains four-elevenths of its weight of oil. So supposing a bushel weighs half a hundred weight, this three quarters per acre would produce, in round numbers, eight hundred weight of oilcake. This would last two hundred sheep four and a-half days: if they each consume 1 lb. per day, call it five days. Now, as an acre of good swedes will last two hundred sheep ten days, I think we may calculate on producing a crop of white turnips on this colza stubble which would last the same flock five days with the cake. Thus the dressing would be equal to that derived from the consumption of half a-piece of good swedes, and the straw being also converted into manure in the yards, the farm receives back all the crop, less the oil. Therefore, considering also that there is no crop which derives a larger proportion of subsistence from the air than colza, it cannot be injurious, but, on the contrary, a benefit to the land, and if continually grown would maintain it in a constant state of improvement.

Poste Restante, Brussels.

WM. HARTLEY.

BUCKWHEAT OR BRANT.

Buckwheat has been grown in this country for nearly three hundred years, yet appears to have made small progress, being little attended to as an agricultural crop here, while it is held in considerable repute on the continent and in America. Although not classed with the cereals, its seed furnishes sustenance to large numbers of people throughout Asia and Europe, and is eaten with relish by many in the United States. It forms a valuable article of diet in countries where wheat will not succeed. The people of the East make delicacies from the meal of buckwheat, which is called "ble monde," or peeled grain. Among the most chosen dishes served upon the tables at the splendid banquets of Haroum el Raschid, Caliph of Bagdad (recorded in the Thousand and One Nights), were barmecedes or ragouts of mutton, with the farinaceous meal of the "ble monde," that is, of peeled buckwheat. Lord Macartney, in his embassy to China, reports that a dish offered him by the Chinese in the name of the Emperor, as a mark of distinction, was nothing but the meal of buckwheat. In China, Japan, and Russia, it forms a considerable portion of the food of the inhabitants. Buckwheat is cultivated in the Himalayas, and in the mountainous countries north of Bengal, Oude, &c. It is supposed to have originated in Asia; and one of the common species cultivated comes from Siberia and Tartary. Buckwheat seems to have been introduced into France in the eighth century by the Saracens, in the time of the invasion of that country, and has preserved

its name (Sarrazin) from this people, as it has in Poland, where it was introduced by the Tartars six centuries afterwards, where it is called Tartarka.

The two kinds of buckwheat usually grown, viz., common buckwheat (*Fagopyrum esculentum*), and the Tartarian buckwheat (*F. tataricum*) differs very much. The former is more farinaceous than the latter. Prepared with the hull, it is sweeter, and does not heat so quick, as it is less resinous than the other kind with the hull. The taste is more bitter; but it may be kept a long time. The latter sort, however, is preferred. Two crops of this can be grown in a season, since neither frosts nor hot winds injure it; and it produces fifty, one hundred, and even five hundred fold, while that first named does not produce more than twenty or thirty to one. The Tartars did not employ the first, as they did not use the farina, but hulling the grains, they cooked them as they do rice, boiling them in water or milk. The process of hulling was performed without the use of a mill. Boiling water was poured upon the seeds, and after standing an hour, the water was poured off, and the grains were dried by the fire or in the sun; and after they were dry, placed between two sheets, and rolled with a wooden roller, by which the hulls were separated from the grains. They were then fanned, and ready to be cooked. What is surprising, as the result of this process, is, the grains were kept distinct from each other, while those hulled in a mill and cooked, became compact and adhesive.

Buckwheat forms in some departments of France the principal bread corn of the people. Over the continent generally buckwheat, in mountain districts, is much grown. In Poland it is very generally sold, both in the form of coarse and of fine white meal. In Germany it is well known as a healthy light nutriment, and is much used in making pork sausages, mixed with the muscle and fat. France harvests more than 2,000,000 quarters of buckwheat, and about two millions and a half of the population live chiefly on this production. They use it in the form of farina, of which they make a porridge, pancakes, and bread; but for the last it must be mingled with the flour of barley and of rye. It is thus made as black as the soot of the chimney. It is dark-coloured, because the grain is mixed with it without hulling. The late Mr. H. Colman, in his *Survey of Continental Agriculture*, states, that buckwheat is grown very largely in poor soils, in some parts of France; but it seems (he says) to be a mere shift to live, and leaves only the regret that land capable of a much better cultivation should be thus appropriated; and yet buckwheat is largely grown in his own country. In the United Kingdom the main consumption of buckwheat is for feeding poultry and some kinds of stock. In 1846 and 1847 large quantities of buckwheat were introduced from the continent, reaching to nearly 46,000 quarters in the two years: now the imports annually are very small, and being mixed up with bere or bigg in the returns, it is difficult to ascertain the quantities precisely, but the imports are scarcely more than 2,000 to 3,000 quarters. Besides fattening pigs on the continent, it is given to horses, all animals being fond of the seeds. It is sometimes used by distillers, being capable of yielding a considerable quantity of good spirit. At Dantzic it is said to be extensively employed for this purpose. In Europe, and also in some places in America, it is very extensively raised as food for bees. It is grown for fodder, and if cured in a green state, and stowed away in small stacks of two or three tons each, or in a dry loft, or on an open scaffold, and then steamed before feeding during the winter, or cut fine in a straw-cutter, slightly moistened with water, and mixed with meal, it makes tolerably nutritious food for cattle and horses. Finally, it is also grown as a fertilizer, to be ploughed deep under the soil when in blossom. Though not equal to clover for this purpose, still it enriches the land rapidly, and has the advantage of growing when and where clover will scarcely show its more delicate head.

The consumption of buckwheat flour in the chief American cities during the winter months is very great. The coarse parts of the grain, after the flour has been separated, make good food for swine, milch cows, or other stock; and, as a good yield can frequently be obtained on land where wheat cannot usually be cultivated to profit, the crop has many advantages.

Buckwheat, although very popular in America, seems, however, to be confined to a few States, principally New England and the middle States. The crop is not raised by any persons in extensive fields, but in

scattered patches; so that though the aggregate forms a considerable amount, yet it does not show so much to the eye as to attract notice. Hence the information respecting it and the means of forming an estimate are both more scanty and less reliable than with regard to many other crops. The best soil, undoubtedly, for buckwheat, is a good, dry, light sandy loam; but it may be made to grow well in any soil if properly prepared. Fresh manure should only be applied to this crop when a growth of straw alone is wanted. When its grain is desired, dissolved bones is the best manure; next comes a mixture, half-and-half of guano and bone-dust. Large crops have been raised on the poor sandy soils of Long Island and New Jersey, by an application of ten to fifteen bushels of bone-dust per acre. Plough deep, sow the seed broadcast, scatter manure, then harrow well, and finish by rolling smooth. If sown for a fertilizer or for fodder, put in one and-a-half to two bushels per acre; if for the grain, three-quarters to one and-a-half bushels per acre is usually sufficient. Sow broad-cast or in drills as most convenient. If for grain, cut as soon as the berry is well filled with milk, and before it gets very hard. Loss frequently ensues by letting it stand too long, for it is a grain that shells easily, as the straw is turned in the field. When wanted for fodder, cut just as it is going out of bloom, and cure the same as clover hay. When ploughed in for a fertilizer, do this in full bloom, and cover as deep and as well as possible. Buckwheat is a crop of considerable importance in many parts of the State of New York. It is usually sown from the middle of June up to July, and sometimes as late as August. A bushel of seed to the acre is the usual quantity, but more or less is occasionally employed. Sometimes it is sown on land from which a crop of hay has been taken the same season, and on a clover lay; if the soil is loamy and friable, it will frequently do well. Buckwheat is also sometimes sown in New York in connection with winter wheat as a protection to the latter for winter. The maximum yield per acre seems to be about 50 bushels, the average 25 bushels, and 12 bushels to the acre will, it is said, there pay for cultivation. It is rather an uncertain crop. In a good season it may produce from 15 to 30 bushels per acre, but an early frost or a few days of hot weather blasts the husbandman's hopes.

Buckwheat flour in limited quantities sells in America for nearly the same price as wheat flour. Indeed so high has the former been at times, that wheat flour has been extensively mixed with it. Hence few farm crops have paid better of late years than buckwheat. Its principal use among the Americans is for pancakes, familiarly known as flap-jacks or slap-jacks; and as our farmers' wives may like to gain a wrinkle respecting the mode of preparing this favourite article of food, considered by the Americans and Canadians as a national dainty, we give the recipe for making them, which is furnished by Mrs. C. P. Trail, in her *Female Emigrants' Guide*: "Take about a quart or three pints of the finely-sifted flour, mix to a batter, with warm milk or water, a tea-spoonful of salt and half a tea-cupful of good barm; beat it well for a few minutes,

till it is smooth, and leave it in a warm place all night, covered in an earthen pot or tin pail, with cover. In the morning have ready your griddle or frying-pan wiped clean, and some lard or butter, made quite hot ; into this drop a large spoonful or small tea-cupful at a time of your light batter, till your pan be full ; but do not let them touch. If the lard be very hot the pancakes will set as you pour them in, and be well-shaped and as light as an honeycomb. Fry of a light brown,

and turn them ; lay them on a hot plate, and serve quite hot with maple-molasses, treacle, or butter."

Buckwheat pancakes are a favourite breakfast dish with the old Canadian settlers. The recently-improved hulling mills for removing the black shell has tended greatly to extend the use of buckwheat in America.

So much for buckwheat : if not worth notice by our own farmers, it is at least deserving attention in the Colonies.

OXFORDSHIRE AGRICULTURAL SOCIETY,

AND

BANBURY AGRICULTURAL ASSOCIATION.

MEETING AT OXFORD.

Within the last few months the two societies, thus judiciously rolled into one, have come to a still better understanding with each other. They are for the future to pull more uniformly together, and it is only a question whether the somewhat clumsy title they continue to work under could not merge into one more thoroughly comprehensive of the county. There are many still, who read its action as limited to the immediate districts of Oxford and Banbury. Certain it is that this year's show had by no means the general support of the shire, either in the way of exhibitors or visitors. The attendance of the latter was very moderate, while the absence of the gentlemen of the county was so marked as to call forth a complaint at the dinner. Mr. Middleton, on behalf of the Oxford, and Mr. Cother, for the Banbury committee, argued on the absolute duty of their landlords giving something more than a merely passive encouragement to associations so closely identified with their own welfare. The three county members were present, but beyond them the list was very circumscribed, and yet Oxfordshire abounds in more local institutions of the same order, where the Squire is sure to take a lead and an interest. It has to be clearly set forth that this united Oxford and Banbury Society now embraces in its operations the strength of the whole county. And this once understood, the farmers themselves will want a little whipping up as well as "the gentlemen."

In fact, the show, although not large, was quite good enough to have commanded more attention from the agriculturist. Some of the classes were exceedingly well filled, and many of the prize animals would take precedence in fuller meetings. As it is, some of them are going on to Warwick, but chiefly in competition for the local premiums. Such sheep, however, as Mr. Cother's Cotswold rams, or Mr. Gillett's Oxfordshire Downs, would be likely to hold their own in the best of company. The entry of the sheep now associated in their very name with society was altogether commendable and encouraging, but still the Brize Norton flock had clearly the best of it. The prize rams are both really good sheep, with beautiful heads—a nice test in such a breed or cross—a healthy active carriage, and a

touch almost as fine as a Leicester. There was a great deal of discussion as to which was the better of Mr. Cother's shearling Cotswolds : but as they both had the honour of beating Mr. Beale Browne's and Mr. Smith's representatives, their quality may be estimated. Mr. Browne righted again with the ewes, the beautiful pen he sent only last week to Barnstaple being equally distinguished here. The Southdown and other short-woolled sheep were rather overdone in the way of prizes. There was very little competition, and in this scarcely any decided character of the sort supposed to be so illustrated.

If the Oxfordshire Down sheep are finding further favour in these parts, so assuredly are the Shorthorn cattle. Both landlord and tenant are alike taking to them, and there was no other breed exhibited. Amongst Dukes, Members of Parliament, and Masters of Hounds, whose herds had a place in the entry, it was a healthy sign to see a plain practical farmer take the first. One of the effects of this should be to cause some alteration in the arrangement of the prize sheet. In some cases, as this is now drawn out, a special premium is given, not to the best beast of the class, but to the best in the name of a tenant farmer. The awards as a consequence were occasionally in need of explanation, and the worst of three entries, in one particular instance, had still to be adjudged the prize. Mr. Hutt's heifer is of extraordinary size for her age, as well as being of very good symmetry and quality. The "next best" to her was Mr. Langston's prize bull, just a week or so too old to take the special prize of his class. Both this and Mr. Hall's highly commended bull have some very good blood in their pedigrees, as they demonstrate in the handling ; and Mr. Langston's, at least, goes on to the great meeting at Warwick. In the cow classes the judges had the courage to pass over a great fine cow that was palpably too fat to carry out the conditions as to being "in milk ;" but the entry of aged cows was altogether very creditable to the county, and far superior to the bulls of the same age. There were only three of these exhibited, to one of which the judges gave the first prize, the second to another, and they commended the third. Still there was nothing extraordinary in any of them ;

and the first-prize bull "began" with a common looking steer's head. As a whole, however, estimated by its general strength, the entry of Shorthorns, either for appearance or the more delicate test of quality and pedigree, was far above the average of what it still really was—a mere country show; for the redoubtable Mr. Stratton had overlooked the time for making his nominations, and there was not an animal of his on the ground.

The show of horses was confined to hunting and draught brood mares, and although the entries were lamentably short, there was at least one good specimen of either sort. Mr. Hall's hunting mare is, indeed, as fine an animal as one would wish to see—of great size and substance, and still with plenty of "breeding" about her. She was quite the attraction of the day, being rendered the yet more remarkable by the twin colt foals by Woolwich at her side. Singularly enough the mare that took this prize at the Banbury show last summer has also dropped twin foals. Mr. Sheldon's draught mare was well worthy of her prize—very active and good looking—and there were one or two more useful animals shown against her, but for numbers in either class there was no competition. The judges, however, were very kindly disposed to what did come, and dealt out their commendations accordingly.

The implement section of the show was chiefly commendable for some well-arranged "collections," but the opportunity at such a season of the year of putting the mowing machines to work was unfortunately not availed of. It might have added materially to the interest of the meeting, which, we can only repeat, was not so great as it should have been. No where was this more evident than at the dinner. Mr. Henley, as chairman, had a very uphill time of it; but the services of those gentlemen who did attend will no doubt be remembered. To keep the Oxfordshire Agricultural Society, however, fairly going, both landlord and tenant have something more to do for it. Merely passive patronage, subscriptions or donations, are of themselves little better than useless.

PRIZE LIST.

JUDGES.—S. Bloxidge, Warwick,
C. Howard, Biddenham, Bedford,
—, Robinson, Clifton Pastures, Bucks.

SHORTHORN CATTLE.

The best Bull, not less than two years old.

First prize of 7*l.*, to Joseph Druce, Eynsham.

Second, of 3*l.*, to J. Hutt, Water Eaton.

Commended.—H. Middleton, Cotteslowe, for Bull.

The best Bull, not more than two years old.

First prize of 5*l.*, to J. H. Langston, M.P., Saraden.

Second 3*l.*, and extra prize of 5*g.*, for best Bull under 15 months old, W. H. Hower, Sevenhampton.

Highly Commended.—H. Hall, Barton, for Bull.

The best Cow of any age, in milk, having calved within six months of the day of exhibition.

First prize of 6*l.*, to J. H. Langston, M.P.

Second, of 3*l.*, to J. Hutt.

Commended.—Another of J. Hutt's, and the Duke of Marlborough's Cow.

The best Heifer, under three years old, in milk or in calf (to calve within four months of the day of exhibition).

First prize of 5*l.*, and Champion Prize of 5*g.* as Best Horned animal in the show, to J. Hutt.

Second, of 3*l.*, to J. K. Tombs, Langford.

Highly Commended.—J. H. Langston, for Heifer.

The best pair of Heifers, for breeding purposes, under 18 months old.

First prize of 5*l.*, and second, of 3*l.*, to J. H. Langston.

The best pair of Heifers, under 18 months old, the property of a tenant farmer, being a member of one of the Societies.

A Silver Cup, value 5*l.* 5*s.*, to C. Clinch, Witney.

HORSES.

The best Brood Mare for Breeding Hunters.

A Silver Cup, value 5*l.* 5*s.*, to H. Hall, Barton, for mare with two colts.

Commended.—J. Hutt's mare.

The best Cart Mare and Colt.

First prize of 5*l.*, to H. J. Sheldon, Brailes.

Second, of 3*l.*, to J. Hutt.

Commended.—J. Druce's mare.

S H E E P.

DOWN.

The best Southdown Ram of any age.

First prize of 4*l.*, to the Duke of Marlborough, Blenheim.

The best Down Shearling Ram of any breed, except Southdown or Oxfordshire Down.

First prize of 4*l.*, to H. J. Sheldon.

The best Down Ram, not a shearling, of any breed, except Southdown or Oxfordshire Down.

First prize of 4*l.*, to J. Hutt.

COTSWOLDS.

The best Long-wooled shearing Ram.

First prize of 4*l.*, to W. Cother, of Middle Aston.

Second, 2*l.*, to W. Cother.

The best Long-wooled Ram, not a shearing.

First prize of 4*l.*, to W. Cother.

Second, 2*l.*, W. Smith, Bibury.

OXFORDSHIRE DOWNS.

The best shearing Ram.

First prize of 4*l.*, and extra prize of 3*l.* 8*s.* as the best Oxford Down ram, to W. Gillett, Brize Norton.

Second, 2*l.*, to W. Gillett.

Highly Commended.—J. Druce, for two rams.

Commended.—H. L. Gaskell, Kiddington Hall, for ram.

The best Ram, not a shearing.

First prize of 4*l.*, to J. Bryan, Southleigh.

Second, 2*l.*, to S. Druce.

The best pen of five Breeding Long-wooled Ewes, with their Lambs.

First prize of 2*l.*, to T. B. Browne, Hampden.

Second, 1*l.*, W. Smith, Bibury.

The best pen of five Breeding Long-wooled shearing Ewes.

First prize of 2*l.*, T. B. Browne.

Second, 1*l.*, W. Smith.

The best pen of five Breeding Oxfordshire Down Ewes, with their Lambs.

First prize of 2*l.*, to the Duke of Marlborough.

Second, 1*l.*, to J. Walker, Begbroke Hill.

The best pen of five Oxfordshire shearing Ewes.

First prize of 2*l.*, to G. Wallis, Hinton.

Second, 1*l.*, to H. L. Gaske.

This Class Highly Commended.

P I G S.

The best Boar, not less than 12 Months or more than 3 Years.

Prize of 3 sovs. to J. Hutt.

The best Boar, not more than 12 Months.

Prize of 2 sovs. to W. Hower; and extra prize of 2*g.* as best boar.

Highly commended.—J. Hutt's boar.

The best Sow, not more than 3 Years.

First prize of 2 sovs. to J. Hutt.

Second of 1 sov. to W. Hower.

Highly commended.—J. Druce's sow.

IMPLEMENTS.

JUDGES.—J. P. Field, Shipton-on-Cherwell.

J. Hitchman, Little Milton, Oxon.

The best Collection of Implements.

First prize of 8 sovs. to J. S. Browning, Oxford.

Second of 3 sovs. to G. Billing, Hazeley.

Third of 1 sov. to Messrs. Beaumont, Reading.

T. Nalder, Wantage, for steam engine, thrashing machine, and corn screen, prize of £1 10s.

J. E. Kirby, Banbury, for two thrashing machines and steam engine, prize of £1 10s.

Joseph Garduer, Banbury, for chaff machine, prize of 1 sov.

This note was appended to the awards: "The judges of

implements regret that they are unable to form a satisfactory opinion of the merits of some of the more important implements exhibited, such as the thrashing and the mowing and reaping machines, as they have had no opportunity of seeing them at work. The judges also desire to express their especial satisfaction with the very excellent collection of implements exhibited by Mr. Browning, of Oxford."

SUMMER GRAZING—THE GRAZING OF CATTLE.

The Grazing of Store Cattle.—This is a subject of great importance to every grazier. Every grazier has store cattle to depasture, but it is only the favoured ones who are in the occupation of lands qualified to fatten cattle, and which department is generally looked upon as being the more honourable and onerous of the two orders of grazing. The grazing of store cattle is adopted and pursued on almost every description of pasture lands—from the sweetest Devon pastures to the bleak northern Highlands, and the varieties of stock are from the results of experience so chosen as to be suited to each separate district, and to which it is always, with slight deviations, desirable to adhere. It is not so much the precise breed of stock that should be adhered to, but their similarity in size and constitution; the active roaming little animal for the mountain pasturage, the quiet docile one for the lowlands and general grazing lands.

"To be forewarned is to be forearmed," is a good old adage, and it applies with great truth and force in the grazing of *store cattle*. Unless store cattle are wintered well, it is at great risk to turn them to good pastures. The great secret of the safe and satisfactory grazing of store cattle is to prepare them for summer grazing by good winter keeping. Stock turned out of the yards in good store condition is a strong guarantee for their well-doing throughout the summer grazing. If their constitutions are impaired by hard living and bad treatment in the winter, the summer's grass will frequently destroy them. They are too weak to retain and appropriate the nutritive qualities of the grass they imbibe, a laxative habit of body ensues, and a gradual decay and ultimate death are the consequence. The liberal and good business-like treatment of store stock in the winter is, then, the true precursor of a safe, satisfactory, and profitable grazing season.

The grazier who has his stock to buy cannot be too careful in his selection. We have long had to contend with a mysterious disease, now commonly designated "the foot and mouth disease;" we have also another disease still more fatal in its course, known as the lung disease—"pleura pneumonia." These complaints are exceedingly enfeebling and detrimental, and often reduce the animal to a mere skeleton. The grazier cannot be too guarded; he must, if possible, avoid purchasing any of those partially-restored animals which have had the latter disease, and he would do well to be very cautious to see that those which have had the former are quite recovered, or he may thus introduce it upon his farm, to his great hurt. When these trying

visitations will leave us, it is impossible to say; but so long as we have them to impede our successful grazing, we must use every caution against their introduction and propagation upon our farms. But we have them, and their effects are seen in the large accession of poor and enfeebled stock with which our markets and fairs abound: these animals of course require grazing, and it is to the grazing of this class of poor animals that I will first offer an observation or two.

In the grazing of poor and somewhat hazardous stock too much caution and judgment cannot be exercised. One of the best resources to strengthen and prepare such stock for better grazing is to preserve and provide for them a field of rough pasture grass, or a rough over-eaten eddish, so that they may be turned there during the day in the early spring, and be taken into the fold-yard again at night to be supplied with good dry food, either of straw and hay, and a ration of linseed-cake, or a feed of meal. In this way the animals will gradually recover condition, and be able to abide stronger keeping. Should, however, no such field or application be obtainable, then I would recommend that such stock be put into the most superior pastures first, and be there supplied with cake and corn in moderate quantity, suited to their state and condition, and as they improve and appear competent to sustain better and stronger pasturage, to be removed to it. The grazing of such stock is often attended with great hazard and difficulty; but where graziers have a gradation or succession of pasturage so as to rise gradually from worse to better, it is by no means an unprofitable mode of grazing; but inexperienced graziers should not attempt it, as it is by the exercise of clear and matured judgment that good results follow.

The grazing of ordinary store stock which have been "well wintered and come out in fair condition" is a matter of such general routine that it seems scarcely requisite in these improving and inquiring days to pen a few lines upon the subject; but there are so many varieties of such stock to be grazed that I shall attempt to say a few words in reference to each kind of stock in order, beginning with the youngest, or

Calves and Yearlings.—By calves I mean weaned calves, or such as have been fully reared, and have now to draw their food from the fields alone. These of course may now be classed with the yearlings, and be treated as such in common grazing. I will first observe that it is unpardonable management not to have these prepared for good pasturage: nothing pays better for good management than these young animals, and

few losses are more provoking than their loss—to see these interesting little steers and heifers dwindle away and die, when so little expense in food might have saved them. It is, however, pretty certain death if they are turned in a weakly or enfeebled state upon succulent, though sweet and nutritive pastures—such pastures as would have just suited them had they been properly wintered. The ordinary mode of grazing such animals is to run them thinly upon the sheep pastures during the summer, changing them according to circumstances, or as they seem to require it; sometimes from a good to an inferior pasture, and again from an inferior to better, or again from a highland to a lowland pasture, or *vice versa*, or any such salutary change that the farm will afford, or the judgment of the grazier may dictate. In the autumn an eddish or aftermath should be provided, to which they should be taken as the summer pastures begin to lose their freshness; and as the eddish begins to decay they should be supplied with a small allowance of cake daily. In this way young steers and heifers may be speedily brought to maturity, and I firmly believe in the long run they would amply repay the extra cost and attention.

Grazing Steers and Heifers.—These are generally “two-year-olds” and upwards. The same order of grazing would apply as for the above, but they would not necessarily require the best pasturage: they will, if properly wintered, thrive almost anywhere and upon any pasturage, if only enough of it. I look upon them as the parifiers or scavengers of the grazing lands, taking off all the rough pasturage, and finishing up what the sheep will inevitably leave. This rough grass ought, however, to be mown for them in daily portions. This class is often too much put upon by graziers. It would be very desirable to provide them with artificial food, in case of need, as it is most unprofitable management to let them shrink on the approach of winter; a few early mangolds or early cabbage, or even cake, would prevent this.

Cows and Breeding Animals.—The grazing and summer management of dairy cows gives ample scope for a separate paper, but I will endeavour to condense a few remarks. It is very unprofitable management to keep a herd of dairy cows on land not suited for the purpose; no pasture land which causes the animals to be of a laxative habit will do; nor will the cows thrive upon good pasturage with bad water. In the Lincolnshire marshes the grass is so succulent and the water so impregnated with saline matters, that dairying to any extent is abandoned. The cows from being too much purged, give but little milk, and that of poor quality. Cows require the most healthy and sweetest grasses, and the purest water to yield the greatest profit. The best and strongest pasture lands are unsuitable. These would rather fatten than enhance their milking properties. Pasture lands of good useful character abounding with pure water or a running stream, are the best suited for dairy cows. These should be laid in early, and a good pasture should be obtained before turning the cows upon them out of their winter quarters. It is certainly best to permit the herd to enjoy their pasture without

the intrusion of other stock, but cows do very well along with a moderate quantity of sheep. In all cases, however, due regard must be paid to keep up a good pasture, not permitting it to grow coarse. Cows ought never to be allowed to travel far to or from pasture: it deprives them of much valuable milk, as many experiments have satisfactorily shown. Cows cannot be kept too quiet and contented: every exertion or drift or any disquietude causes a less yield of milk. In very wet or untoward seasons it is desirable to take them occasionally to the fold-yard, and give them straw or hay as dry food, and withhold any large supply of water. I need not say that good clean milking is absolutely necessary.

The Grazing of Breeding Stock.—Breeding cows and heifers do not require so much careful attention as for milking purposes. A few in each field, along with other kinds of stock, generally thrive admirably, and their calves are rather amused and benefited by the mixture. It is a point worthy of note, that all suckling farm stock require plenty of room: they love to roam in search of stray blades of grass apparently, and the thinner they are placed on the pastures, the better they thrive as a rule; the other kinds of stock being either store sheep or store cattle, so that the pasturage is kept in proper grazing order and fruitfulness. The kind of land best adapted for suckling purposes, is what is generally known as second-rate sheep land, *i. e.*, land of somewhat inferior quality, and not quite strong enough to fatten sheep. These pastures must also be supplied with good water, or they are not qualified for suckling pastures. It is a material point in suckling that the cow should yield her milk of an even or uniform quality, so that no damage shall arise to the calf; but if scouring or fever intervenes from bad water or bare pasturage, the cow's secretions are all wrong, and the calf soon suffers; care must, therefore, be given to provide a change of pasture rather than this should occur. The calves will seldom require much attention during the time of suckling.

The Incalved Cows and Heifers.—These may for the most part be classed and managed as store stock, and have the run of the pastures along with mixed stock. It is not desirable as a rule that they should become too fat. The produce in such case is generally a very small and delicate calf, hard to raise, and slow of growth. “A well grown calf is half raised.” I am well aware that our first-class breeders resort to many practices differing from ordinary breeders, or their splendid animals would not breed at all; I am speaking of common breeding and common management, and would urge that every care should be taken to keep these animals in a fair healthy breeding state, and nothing more.

VALUE OF THE EARTH-WORM.—The common earth-worm, though apt to be despised and trodden on, is really a useful creature in its way. Mr. Knapp describes it as the natural manurer of the soil, consuming on the surface the softer parts of decayed vegetable matters, and conveying downwards the more woody fibres, which there

moulder and fertilize. They perforate the earth in all directions, thus rendering it permeable by air and water, both indispensable to vegetable life. According to Mr. Darwin's mode of expression, they give a kind of under-tillage to the land, performing the same below ground that the spade does above for the garden, and the plough for arable soil. It is, in consequence, chiefly of the natural operations of worms that fields which have been overspread with lime, burnt marl, or cinders, become in process of time covered by a finely divided soil, fitted for the support of vegetation. This result, though usually attributed by farmers to the

"working down" of these materials, is really due to the action of earth-worms, as may be seen in the innumerable casts of which the initial soil consists. These are obviously produced by the digestive proceedings of the worm, which take into their intestinal canal a large quantity of the soil in which they feed and burrow, and then reject it in the form of the so-called casts. "In this manner," says Mr. Darwin, "a field, manured with marl, has been covered, in the course of 80 years, with a bed of earth averaging 13 inches in thickness."—*From the Encyclopædia Britannica—New Edition.*

THE "PRESENT CIRCUMSTANCES" OF THE TURNIP.

The worthy alderman, when he did pay his long-promised visit to the country, could not disguise his astonishment at the importance his rural friends appeared to attach to a matter of which he had little or no previous cognizance. Everything seemed to depend on the turnips. If there was a refreshing shower, people heaved a grateful sigh, and joyfully exclaimed, "Ah! how this will bring on the turnips!" On the other hand, if he ventured to observe that it was nice fine seasonable weather, his companions would shake their heads, and question whether they didn't "want a little more rain for the turnips?" In his mind, this necessary vegetable was associated with a dark corner in his greengrocer's shop, or a small plot in his neighbour's garden. If he had a neck of mutton, or, by way of a change, boiled a leg, of course he expected to have turnips with it; otherwise he really thought nothing about them. His experience was not sufficient to lead him on to any logical deduction. He would have been only the more surprised still to learn, as he might have done, that the connection between turnips and mutton was much closer than he had supposed, and that without the one he might find it difficult to ensure the other.

The closing discussion of the session, at the Farmers' Club, turned a good deal upon this. "What system of cultivation upon mixed soils will, under present circumstances, be found most profitable?" put present circumstances into a very different position to what some political economists would have anticipated. There was not a word about the war. The name of the Emperor was never once mentioned. Our own chance of a share in the fight was not so much as hinted at. The turn out of a Conservative Government had not the slightest possible consideration. The very price of wheat had little or nothing to do with the business in hand. What could present circumstances mean? There are patriots left still, who might twist such an opportunity into a restrictive duty or a sliding scale. There are cautious growers who would make the present depend no little on the future, and argue how long it might be safe to hold. There are present circumstances, in a word, which require all sorts of remodelling and adjustment, to place the farmer on a proper footing with other people.

But the members of the London Farmers' Club are

proverbially practical men, and they discussed this subject much after their usual wont. The good citizen, on his return from his three weeks' sojourn, would have been quite at home here. Everything still went on the turnips. The one great difficulty, in fact, of present circumstances is the turnips. Landlords may be exacting or capricious. Markets may be uncertain, and times be trying; but the important question is, what are we to do for turnips? The soil is sick of them. Some trace this back to the use of artificial manures. The most primitive, however, of Adam's gardeners are equally at fault. Of course there is a sequence to this, and the land is not only turnip sick, but clover sick, and barley sick. Like Paterfamilias at Christmas time, it has become weary of the monotonous rotation of cod and oyster sauce, roast beef, boiled turkey, and plum pudding. It wants a break from the four "course" system, and for the sake of a variety would rush even into the hazardous experiment of "removes," or be content with the more simple alternative of a chop and a chop to follow.

There is naturally one very pertinent query that arises here. If, as about everybody agreed, the four-course kind of cultivation was worn out, why did we not, as reasonable men, try another? This is the very age of reliable experiment in matters agricultural. If there is anything really good, it is certain to eventually succeed. If there be a weak place, it will yet more readily be discovered. If so, the farmers, the land, and the crops are tired of the four courses, why, in the name of common sense, do we not try some other? Say six, or five, or three, or two, or anything that will revive the turnip, or enable us to do without it. The law, however, exercises its full majesty at this point. There is scarcely a solicitor's-office in the kingdom but has a model form of agreement, telling the tenant how he shall farm and how he shall not. Twenty or thirty years since, if a man had taken a white corn crop out of its registered turn, we are not quite sure but that he might have been indictable for the felony. Or, if an agent had let a man a place, with liberty to do pretty much what he liked with it, he could only have been considered as qualifying himself for the nearest lunatic asylum, where, in accordance with the wisdom of the age, they flogged, starved, and terrified people once more into their senses.

But we are to be flogged, starved, and terrified into doing what is right no longer. The old truism rises before us again, at this stage of the journey. The interests of landlord and tenant are altogether identical; and if the two can only be induced to put anything like becoming faith in each other, there need be no further fear of robbing the land, or troubling lawyers to tell farmers how they shall do their own work. Depend upon it, a man who has anything like due confidence in the one he holds under, will be very careful ere he commits an injury that can scarcely be but mutual. "Under present circumstances," the owner of the soil has ample opportunity of selecting its occupier. And let him once get a good tenant, the more liberty of action he allows him the better for both of them. The red tape routine of "our form of lease" has gone by. The Farmers' Club discussion all tends

to prove this. If a man goes indifferently about his business, there is no lawyer's office in England can do much to improve him. On the contrary, the old obsolete line and rule of this and that has cramped the energies of many a man ere now—ruined the turnips—spoilt the barley crop, and shortened the supply of victuals and drink for the people. We believe the question really comes to this. The majority of farmers do not alternate their systems simply because they are not permitted to do so. The report we give is worthy alike of the serious consideration of either class; and in Mr. Baker's much regretted absence we can only congratulate the Club on the selection of so good a man to fill his place. Whatever reading Mr. Baker himself might have given to so open a question, no one will quarrel with the strictly practical and useful interpretation Mr. Owen Wallis has put upon it.

LONDON, OR CENTRAL FARMERS' CLUB.

THE CULTIVATION OF MIXED SOILS.

The last monthly meeting previously to the usual adjournment took place on Monday evening, June 6. The question for discussion was, "What system of cultivation upon mixed soils will, under present circumstances, be found most profitable?"

Mr. Thomas, of Bletsoe, presided, supported by Messrs. Owen Wallis, H. Trethewy, J. Pain, James Wood, W. Fisher Hobbs, S. Skelton, L. A. Coussmaker, T. Congreve, J. Gray, R. Marsh, G. Smythies, J. Cressingham, J. Wood (Croydon), C. J. Brickwell, W. Heard, J. Beddoe, J. Hooker, J. S. King, F. J. Baines, J. Parkinson, J. C. Morton, T. Lyall, J. Maund, D. Reid, H. Gibbons, Pell, &c.

In the absence of Mr. Baker, of Writtle, from illness, the subject was introduced by Mr. Owen Wallis, of Overstone Grange, Northampton.

Mr. WALLIS, after expressing his regret at the cause of Mr. Baker's absence, and claiming the indulgence of the meeting for himself, as having unexpectedly been called upon to take up a question which was assigned to another member, proceeded as follows: The subject for discussion as proposed by Mr. Baker is—"What system of cultivation upon mixed soils will, under present circumstances, be found most profitable?" This is by no means an easy question to answer; it is not easy to give an answer to it that will not be open to dispute. There can be no means of proving the superiority of one system over another, until they have been tried one against the other, under the same circumstances and conditions, for a number of years, and accurate accounts of the profit and loss of each faithfully recorded. This, however, has never been done, that I am aware of; and even if it had, other circumstances would have to be taken into account which might render the trial anything but conclusive. For instance, one system, though at first the most profitable, might contain within itself the seeds of its own

destruction by exhausting the soil of certain properties essential to the production of healthy crops; while the other, by the non-exhaustion of those properties, might be continued for an indefinite period. The question, then, becomes one of opinion only, and not of positive proof. We may, however, from the information which our daily observations afford us, form pretty correct conclusions; and I think it is now very generally agreed, that on light soils the four-course system can no longer be defended, but that a more extended rotation must be adopted, in order that the turnip and seed crops may be sown less frequently, and by that means, it is hoped, grown more successfully. That this opinion is rapidly gaining ground is shown by previous discussions at this Club. It is also apparent from the proceedings of the Royal Agricultural Society of England; for in the schedule of prizes last issued is one of 20 sovereigns "for the best report on the modifications of the four-course rotation which modern improvements have rendered advisable." There is also another prize of 20 sovereigns "for the best report on the causes of the increasing difficulties of turnip cultivation, and the remedies." Every year, indeed, brings additional evidence of the necessity of a change; for, notwithstanding the assistance we have derived of late years by the use of artificial manures, the turnip crop is becoming rapidly more precarious, and is deteriorating both as to weight and quality. The difficulty as to the clover plant has long been felt; but, great as the loss from its failure has been, we have found less difficulty on the generality of farms in keeping our stock in summer without clover, than in winter without turnips. Now, however, that the double difficulty has come upon us, we have no alternative but to look about for a remedy. But there is not only this difficulty as to the green crops: there is an equal deficiency in the barley. On most of the farms with which I am acquainted that crop has fallen off

nearly one-third in quantity, and the quality is inferior in comparison with former years. Six quarters per acre used to be obtained where four can only be got now, and this, too, with the land in a much higher state of cultivation than formerly. It used to be strong and reedy in the straw, and stand up till ripe; but now, it is no sooner a few inches high than it tumbles about in all directions; and, though in appearance a great crop, there is in reality nothing but a lot of soft weak straw and about two-thirds of a crop of inferior corn. Its effects upon the young clover seeds are very injurious. Those that live are very much weakened, and a great part of the plant is often lost altogether. It being, therefore, apparent that a more extended rotation of cropping must be adopted, we have to inquire what other is likely to prove the best substitute for the four-course one. On ordinary soils the extension of the white corn crops should, I think, depend upon the amount of artificial food, or purchased manures, used upon the farm, unless they are accompanied by a corresponding increase in the green crops. There can be neither reason nor justice in restricting one tenant, who uses these very liberally, to the same covenants as to cropping as you do another who either uses them sparingly, or not at all. A departure from one general rule may give some trouble to agents on large estates; but cases ought nevertheless to be dealt with on their own merits, and the good and the bad tenants no longer tied down by the same restrictions. For myself, I have nothing to complain of in this respect. Happily, I rent under a liberal and considerate landlord, whose agent is a large farmer and a thorough practical man of business; and using as I do large quantities of cake and meal in finishing off beasts in the stalls that have not got fat at grass, and also in preparing others for summer grazing, and using also a considerable quantity of bones, which I grind and dissolve on the farm, I have been allowed—indeed, I may say, compelled to extend my corn crops. I find that nothing bears high-farming so well as wheat and oats; and I therefore sow all my land, after turnips, mangolds, and fallow, with those cereals. My present course is: turnips or mangold; wheat; barley; seeds—composed of clover, trefoil, rib-grass, and rye-grass either mown or grazed one year; and then wheat again. I not only find that I can grow more wheat after turnips than I can barley, but that I can grow more barley and of much better quality after wheat than I can after turnips. I think, moreover, that this plan may with advantage be somewhat modified. There is considerable risk of mildew in wheat sown in the spring after turnips on deep land, subject to heavy crops of straw. I therefore think it advisable to sow such land with oats after the turnips, and take wheat after the oats: sowing seeds in the wheat. It may be supposed that this extension of crop will lead to an increase of couch-grass and other weeds. This need not be the case. Indeed, I think it capable of increased cleanliness. Before either the mangolds or turnips are allowed to be pulled up for storing, or stocked with sheep, the land ought to be carefully looked over, and any couch, docks, &c., that

have escaped the previous cleaning or horse-hoeings ought to be forked out and carried off the land. And, again, after the first crop has been harvested, the stubbles ought to be subjected to the same process; and as no seeds have been sown with that crop, if required, it ought to be carefully hoed, in order to destroy any annual weeds that make their appearance. The second crop of corn may therefore be sown on land quite clean; and if only clean seeds are sown, there is no reason why it should become foul during the whole course. Upon this point, however, there is always great difficulty, for there is nothing worse to find than clean rye-grass and clover seeds. I have myself on several occasions gone nearly the whole round of the seed stands in Mark Lane, for two or three consecutive weeks, and have not found one clean sample of ryegrass; and many of the samples contained an immense quantity of couch seed. I cannot, however, blame the growers and vendors of these foul seeds so much as the sowers of them. If there was not a ready market for them they would cease to be produced; and if farmers would only sow clean seeds, those only would be supplied to them. I have now described the course of cropping I have adopted on my turnip soils; but as three-fifths of the land is under corn crops, it requires liberal dressings. In growing my turnip crops, I find it much better to use half a dressing of farmyard dung, with half a dressing of superphosphate, than a whole dressing of either alone. I also make a point of dressing nearly all my seeds with about eight loads of good farmyard dung per acre; and I know of no application of dung that is so profitable as this. If, however, I find I am likely to run short of manure for topdressing my seeds, I then grow some of my common turnips with superphosphate only. I generally draw off one-third or one-fourth of my turnips to be consumed in the yards, and eat the remainder on the land with sheep, which, in addition to their turnips, are well supplied with good chaff, and most of them have either cake or corn as well. For my lambing ewes I always sow about ten or twelve acres of rye, immediately after harvest, on land intended for turnips the following year. This, with mangold and chaff, keeps both the ewes and their lambs during the lambing season, till the latter are old enough to be drafted on the seeds or old pasture land. As soon as the sheep have finished the rye, I plough it up, and prepare for turnips, and generally get a better crop upon this land than upon any other part of the farm. And now as to farms where the self-supporting principle is to be relied upon. And here I think the course of cropping should be still further extended. When I was a very young farmer, the six-course rotation was in very general use in Northamptonshire; and I have long been of opinion that there never was so much corn and stock produced at so little cost as there was under that system. The course of cropping was—turnips, barley, seeds (two years), wheat, and barley. For this last crop the land was partly cleaned, and half a dressing of manure applied. The seeds were generally mown the first year and grazed the second. They were stocked chiefly with sheep, but partly also with young beasts, or the cart horses, to eat

the ryegrass hents, and keep the pastures good for the sheep. On some land it is, I know, objected to sow ryegrass at all. On clay land it has generally been thought injurious; but I have sown it very frequently, mixed with white clover, trefoil, and ribgrass, and, as it is not allowed to run to seed, I have never seen any harm from it; and have grown quite as good wheat after it, or even better than after clover alone. It seems stronger in the straw, and falls less readily. It is one objection to having seeds down one year, that they are often much weakened by the previous crop of laid corn, and are only just getting strong, and capable of making a good pasture, at the time they must be ploughed up for wheat. By keeping down the seeds two years, the yearly cost of sowing is reduced very considerably. The quantity of live stock upon the land during the summer would be doubled, and many farms would be suitable for breeding both sheep and cattle where none are bred now; and with present and probable future prices of store stock, breeding has been, and will I think continue to be, one of the most profitable parts of a farmer's business. I am also decidedly of opinion that if cattle and horses were more generally pastured with sheep in the seed fields, we should hear much less of the serious losses of the latter, and to which the able paper of Mr. Marshall, of Rieholm, read at the Club last year, had special reference. By stocking the land heavily with sheep only, and by the liberal use of cake or corn with the seeds, you first poison the land with the dung of the sheep, and then poison the sheep by compelling them to eat the herbage produced. Disease and death are the natural consequences. In making this suggestion, I am aware that to some localities it is altogether inapplicable, because the farms are without subdivision-fences. In many others also, the hedges have been so weakened by annual cuttings, that they are no longer of use as fences against cattle and horses. With regard to this practice of cutting the hedges, I am decidedly of opinion that it must be discontinued, or there will not be a fence in the country that will even stop a sheep. To old hedges it is utter ruin; and it will very soon so weaken the young fences as to make them little better than old ones. I have therefore ceased on my own farm to cut them annually; nor do I think I shall soon be induced to resume the practice. I am aware that I have done so at the expense of that appearance of neatness and order that nicely-trimmed hedges impart to a farm; and at risk of being considered an untidy fellow by those who do not know my reasons for the change. There is no occasion, however, to allow hedges to grow to the size they did in former times; neither is there any necessity for wide open ditches by the side of them. These may all be safely drained with tiles, and filled in. The hedges should also be cut and laid once during the course of cropping, varying the sides on which you cut them. By so doing, the old wood left at one cutting will all be removed at the next, and the fences will thus be kept in a thriving condition, being full of young wood, and with a good thick bottom. I ought, perhaps, to apologise for this digression on the subject of hedges;

but, as good ones are an essential condition to the course of cropping and the method of grazing the seeds which I am advocating, I do not see that I could very well omit these remarks. There is another important feature in reference to the six-course system of cropping when compared with the four-course, namely, that fewer horses and less manual labour is required; and that without any diminution of the corn-crops, one-half of the land being still devoted to them. I have heard lately of instances where wheat has been grown after two years' seeds, and the yield has been great beyond all former occasions. The *acreage* of the turnip-crop will of course be lessened, but I am inclined to think that the amount of food would not be so to any considerable extent. If a return to the six-course has the effect of restoring the turnip-crop—and I have great faith that it would—we should then have good crops of sound roots available for feeding stock, instead of the present miserable ones of diseased tubers; which, if not assisted with other and better food, would pine the stock confined upon them. There would also be the second year's seeds, upon which either the lambs at turnips or the stock ewes might be turned for three or four hours during the day; and they would, if rested in the autumn for the purpose, lessen the consumption of turnips considerably. In some districts of the Midland Counties it is the custom to take a crop of oats after the two-year-old seeds, and then wheat after the oats. This plan affords still greater facilities for wintering sheep stock on arable land. It is in other respects advantageous; for the very finest oats are produced in this way, 46lbs. per bushel being a common weight; and at the prices such corn has of late commanded, no crop has been so remunerative. On the deep rich loams, wheat of finer quality is obtained after oats than in any other way. Taking into account, then, the increased facilities for breeding, rearing, and feeding sheep and cattle; that one-half of the farm is still under corn crops; the decreased expenditure in respect of both horse and manual labour; the little occasion there will be, on soils of average fertility, for the use of artificial manure, or any great amount of artificial food; the more than probable resuscitation of the turnip and clover crops—I am quite of opinion that the six-course system, with two years' seeds, is, on soils adapted for it, on the whole the most profitable. This is no new theory; nor, as far as I am concerned, any new opinion. At a discussion of this Club, on a subject identical in principle, introduced by Mr. Thomas, of Lidlington, in December, 1856, I expressed the same views. Neither is there anything new in the system. I am simply recommending a recurrence to a practice much older than any of us. But I trust it has something better than age to recommend it. I do not expect, however, that either this, or any other system, will be universally adopted. There will always be so many circumstances affecting different localities, and even different farms in the same locality, such as soil, climate, the present subdivision of farms, and the special requirements of special districts, that no general rule can be laid down for universal adoption. Take my

own case. It may fairly be asked—Why have not you adopted the system you so strongly advocate? For two reasons: First—On a farm of 400 acres, nearly the whole of which is arable, three-fourths of the old hedges have been grubbed up and new ones planted, and the latter are not yet of sufficient strength for the purpose. Secondly—Having another farm of nearly 500 acres, all old pasture; it is of more importance to me to provide fodder and roots for the winter, in order to keep cattle that either have been or are intended to be summer-grazed on this pasture land, than to increase my summer stock, on my arable farm. But for these considerations, I would at once adopt it, and may probably do so as soon as the first obstacle is removed. I have hitherto spoken of the system of cropping soils on which turnips can not only be grown, but consumed upon the land on which they grow. I will now make some observations on clay soils. Here, I am not quite so sanguine that the rotation can be so advantageously extended. Cleaning, in adverse seasons, is a more difficult operation, and less can be done by forks and hand-picking. Besides, there is no occasion to sow clover more frequently than once in eight years; beans being substituted alternately. It may be argued that peas may be used in the same way on light soils. They are, however, a most precarious crop, and more difficult to keep clean than any other. On heavy clay soils a summer fallow can scarcely be altogether dispensed with. These soils may, however, be made subservient to stock feeding to a considerable extent; and that, too, at a time of year when keeping is of the greatest value—namely, the spring. I sow one-half of my strong-land fallow with tares and mangolds. For the latter I prepare the land as far as possible in the autumn, getting the dung on and ploughed in during the winter, and drill the seed on the stale furrow. The surface having been well pulverized by the previous frosts, a fine seed-bed is obtained, and that, too, on a solid bottom, which is favourable to the growth of the plant. I use the tares for soiling my horses; and when they are carted off, the land is broken up, and, if required, summer-fallowed; or, if clean, it can be sown with coleseed for autumn sheep-feed. On the other half of the land intended for fallow, I drill in the wheat, the previous April, about six or seven pecks of Italian ryegrass per acre. At harvest, this is scarcely visible; but it grows rapidly when the wheat is removed, and by the following spring is a very good pasture. This, if assisted by mangold-wurtzel, will carry a considerable quantity of sheep stock till the end of May, or even later, when, if it contains any couch-grass, it should be broken up; and the drier the weather at the time, the better. I grow either barley or oats after the fallow and mangolds; then seeds or beans; and then wheat. This finishes my course on clay land; but, having only four fields, I have no choice of system. To those who think a more extended rotation desirable, I would recommend—1st, fallow, after tares or Italian ryegrass, as stated above; 2nd, oats or barley; 3rd, clover; 4th, wheat; 5th, beans and mangold, well manured, also hand and horse-hoed;

and 6th, wheat or oats. Broad clover should be sown in one course, and white clover and trefoil the next; but if the land will not grow good clover thus often, I should not hesitate to sow ryegrass, white clover, and trefoil occasionally. Having now stated my views as to the most profitable course of cropping on both light and heavy soils, I will, if I am not trespassing too much upon your patience, conclude with some general observations applicable to both. In the first place, I by no means advocate extravagantly high farming. Land should be manured according to its quality, some soils bearing, and indeed requiring, much more than others. In the next place, I particularly deprecate a very heavy dressing for any one crop, excepting, perhaps, mangold-wurtzel, which can scarcely be overdone. At all other times, it is much more advantageous to apply lighter dressings, and more frequently. I do not, however, think that a liberal use of cake and corn has that tendency to produce superabundance of straw, and laid crops, that many imagine. On the contrary, I think it strengthens rather than lengthens the straw, and, beyond all doubt, greatly increases the yield of corn. I have seen the largest, and apparently the heaviest, crops of corn produced, after fallows, by heavy dressings of poor straw-yard dung; but they proved to be little better than the substance which had sustained them. One is almost led to the conclusion that there may be some analogy between the animal and vegetable kingdoms, and that, in both, like produces like. I am afraid that rather more err from under than over-dressing; and, with rent, rates, taxes, horse and manual labour, and other expenses the same on a bad crop as on a good one, it is the greatest error that can be committed. This principle is now very generally recognized; and really bad farming is now rarely met with. Whatever course of cropping has been proved most suitable to a district, that course should be pretty closely adhered to. I know of no greater folly than changing a system of cropping at every variation in the relative values of the different kinds of corn and other produce. I have generally seen that if one description of corn obtains a price higher than is its natural value in comparison with other kinds, that so many are tempted to sow it more largely than they otherwise would have done, that it becomes the cheapest instead of the dearest, and their object—that of obtaining the most profitable crop—is thus defeated. Vary cropping as much as you can, whether corn or green crop—that is, do not sow any one kind of either corn or root too frequently on the same spot. Let swede turnips, common turnips, and mangolds be each sown alternately. Vary the corn, pulse, and clovers in the same way; but do not vary the system of sowing white crops and green ones alternately, unless under special circumstances. Nothing is worse for a farm, and I believe for the occupier's pocket also, than what is termed the everlasting shift. Steady perseverance in a right course will, in the long run, be found the most profitable. In conclusion, I can only express my fears that I have not been able to throw any new light upon the subject; and also to express my deep regret that our old and valued friend who proposed it, is not

present to give us the benefit of his larger knowledge and greater experience respecting it.

In reply to a question from Mr. Skelton as to the nature of the land of which he had been speaking,

Mr. WALLIS said all except four fields was turnip soil.

Mr. J. PAIN (Felmersham, Bedford) said he quite agreed with Mr. Wallis, that the system of growing turnips once in four years, on light land, was not a good one. If not yet abandoned, he believed it soon would be, as the cultivation came round too frequently for the turnips and for the clovers. On his own farm he had carried out a different system for the last three or four years. He could hardly get any turnips at all; and, therefore, he adopted a six-course shift, which he believed afforded a little better chance. What they called turnip land was quite sick of turnips; and the best remedy was, in many cases, to sow mangold instead of turnips.

Mr. SKELTON enquired what was the general character of Mr. Pain's soil.

Mr. PAIN said it was generally of a dry character. On what was formerly called good turnip land he could not now grow turnips as he used to do; and, therefore, he had substituted for them mangold, growing half of each, and that system had succeeded admirably. He could also grow good mangold on cold land. Though they did not use turnips in that case, they used tares or something else as a substitute on the fallows, then barley, beans, clover, and wheat; and wherever the land was in pretty good condition, he found no difficulty in getting two crops of wheat in six years. He was satisfied that the further they got the crops apart the better would be the result.

Mr. L. A. COUSSMAKER (Farnham) could corroborate what Mr. Pain had said in reference to the general failure of the turnip crop. He farmed principally heavy land; and, therefore, it was to such land that the remarks he had to make would be applicable. Still it was land on which he could grow very good turnips and swedes, though he might have a difficulty in feeding them off. He had farmed that land now for 20 years, having proceeded on the five-course system. When he first occupied it, it certainly was not much subject to turnip crops, but he found that he could not now produce the same quantity of turnips that he used to do. [A voice: "What is your rotation?"] Green crops, according to the nature of the land—turnips, or mangold, or tares, or whatever it might be; then after the green crop, a white corn crop—wheat, barley, or oats, according to circumstances; this was followed by a green crop, which was invariably put into beans, and the bean crop was put into wheat. He had, as he said before, gone on the five-course system; but only a portion of his land being adapted for turnips, he had called upon it oftener than he otherwise would have done. This land now declined producing turnips, so much so that this year he did not grow a single turnip. He had substituted globe mangold wurzel for swedes, and rape for early turnips. A friend of his having recommended him to manure his land with lime, he tried

that a year or two ago, but he did not find it answer. The seed crop did not fail, but he only came upon that once in ten years. He could not grow a turnip crop once in five years. As regarded the trimming of hedges, which no doubt gave them a very neat appearance, he would observe that where quicks were grown there was no danger of deterioration; but, on the other hand, where quicks were not grown the stuff would die away: the result depended, in fact, on what the hedges were composed of (Hear, hear). With regard to autumnal cultivation, he entirely concurred in what had fallen from Mr. Wallis. He found that he could not grow tares as he used to do. In the course of his twenty years' farming, his farm had, he considered, been very much improved. He had manured it strongly; still he could not grow green crops, roots, or tares as he did formerly. Mangold wurzel was an exception; that did not deteriorate: if he put on plenty of dressing, he never found it to fail.

A Member: Do you use guano?

Mr. COUSSMAKER replied in the affirmative. He did not, however, use much artificial manure, because it was so dependent on the weather for its effects. If, after a strong application of guano, there was wet weather, it answered; on the other hand, if the weather were dry the land was rather deteriorated than improved. In high farming he did not find anything so reliable as farm-yard dung.

Mr. GRAY (Courteen, Northampton) observed that Mr. Coussmaker had not clearly stated his five-course rotation; he appeared to him to have given only four crops.

Mr. COUSSMAKER said: First there was a green crop; this was succeeded by a white corn crop; then came another green crop—clover, or tares; the clover or tare crop he always put into beans, and after beans he grew wheat. He put on the whole of the manure on his clover lay for beans, and he took his wheat after his beans; he always grew a better crop of wheat in that way than he could produce on the clover lay.

Mr. G. SMITHIES (Marlow, Leintwardine) said: As regarded the clipping of fences, he quite agreed that it was possible to clip them every year, and keep them in good condition; but they should be clipped in the form of a wedge, and cut at the top. It was not easy to get a good quick fence; it took many years to do so. He felt personally very much obliged to Mr. Wallis for his able introduction, and he hoped it would induce landlords to allow good tenants to farm more in accordance with their own notions, instead of the notions of some lawyer in a small town, or, rather, of his great grandfather. (Laughter.) The time had certainly come when those who farmed high could not farm on the four-course system. He had himself been obliged to depart from that system on account of his barley having gone down, a loss of that kind being, in a stock country like his, a very serious matter indeed. He agreed with Mr. Wallis as to the necessity of removing as far as possible all the weeds and couch from the turnip crop in the autumn. In a wet climate, and with a light soil, there was sure to be a great deal of loss; and in the autumn, when the leaves were dry, much could be done to diminish that evil.

Mr. MARSH (Sandwich, Kent) remarked that in his county they did all they could to grub up hedges, considering them a great source of deterioration to arable fields. They were almost turnip-sick, but were not so badly off in that respect as some gentlemen who had spoken appeared to be; they could get very fair turnips once in eight years. It had been the practice of late by some farmers to substitute for clover giant sainfoin, which they found a very good change.

The CHAIRMAN inquired what kind of land Mr. Marsh referred to.

Mr. MARSH: Light chalk.

Mr. J. PARKINSON (Bournemouth, Dorset,) was happy to find the prognostications of some old friends of his fulfilled, with regard to the failure of the four-course system, in the paper which Mr. Wallis had read that evening. The late Mr. Rogers, of Ranby, Notts, and the late Mr. Milward, of Hexgrave, were, in their time, as good farmers, and made as much money by farming, as almost any one in the country. Before the introduction of guano those gentlemen both said it was impossible to tell of what bulk or weight swede-turnips might be grown. Neither of them had grown a swede beyond its natural powers; and, though he had seen swedes on their farms weighing 16 or 17 lbs., he never saw a hollow one amongst them. The failure of the turnip-crop was, in his opinion, attributable to the use of guano. They couldn't eat their cake and have it; they couldn't force the crop at the first stage of growth, and have the same benefit at the end. So long as farmers were confined to the use of bones and farm-yard manure, the turnips never failed. He would appeal to old farmers present what was their recollection on this subject? Up to the year 1841, or even later, he himself certainly never saw anything like a hollow swede-turnip; and he had come to this conclusion, that the deterioration of this crop was owing to the introduction and application of guano, as well as by the four-course system which had very properly been denounced by Mr. Wallis. He would here observe that in a paper which was prepared by himself, under the direction of the late Mr. Milward, for the Agricultural Society, in 1841, and which, owing to some mistake on the part of the officials, was not published, the extension was carried rather further with regard to seeds than even Mr. Wallis advocated. There the seeds were carried to three years—a system under which both Mr. Rogers and Mr. Milward made fortunes.

Mr. J. PAIN: How were the three crops consumed?

Mr. PARKINSON: By sheep and young stock.

Mr. J. PAIN: Were they mown or fed off?

Mr. PARKINSON said they were always grazed. The system of which he was speaking was carried out on light land in Sherwood Forest. The rotation was as follows:—First, turnips; second, barley; third, red clover, mown; fourth, wheat; fifth, turnips; sixth, barley; seventh, eighth, and ninth, seeds, pastured; tenth, oats. The evil which Mr. Wallis mentioned in reference to wheat straw might be avoided in a great measure by the use of salt. He had himself derived great benefit from that for the last twenty years. On one occasion a neighbour of his applied guano to his

wheat crop on the same kind of soil on which he himself applied salt. The contrast in the results in his own favour was quite marvellous: his neighbour's wheat was laid down while his was standing at harvest time, and he got nearly a quarter an acre more wheat of a very superior sample. He had also applied salt very beneficially in a variety of other cases. In wheat after oats there was a difficulty in keeping the wheat free from oats; at least that was his own experience. Ryegrass he had found on the strong red lands of Nottinghamshire anything but a failure: he had grown large crops of wheat after it. Mr. Wallis had spoken of good results to his wheat after an application of cake manure, observing that his corn stood well. That was not surprising, as such manure contained saline properties.

Mr. W. F. HOBBS (Boxsted, Essex) thought they were pretty well agreed that the usual mode of cultivating mixed soils, namely, the four-course system, was not the most profitable. He could not lay down any particular mode of cultivation for his own farms, because they consisted of very different soils, and had been remodelled rather with a view to letting than to the adoption of any particular system. It was evident, however, that the four-course system ought now to be considered out of date for mixed soil land; and he thought all wise landlords must be disposed to give increased facilities for cultivation when they saw intelligence and capital combined in their tenants, so as to enable the occupier to grow what the land was really capable of growing. It had often struck him that oleaginous crops might be produced to great advantage. He referred to rapeseed, and other crops producing oil. At the present day the inhabitants of this country who used moderator lamps were entirely dependent on foreign lands for Colza oil; and if England were to go to war with France, they would no doubt be compelled to pay for it double or treble what they paid at present. In travelling through France, he had, at this period of the year, observed immense tracts of land employed in the cultivation of rapeseed; and he believed that it was more profitable than wheat-crops. He thought that, occasionally—say once in eight or ten years—an oleaginous crop like rapeseed would be beneficial, both because it would destroy insects, and would in itself yield a good return. Another remark which he wished to make was, that he himself had frequently had three green crops in one season. That enabled him to keep a very large quantity of sheep; and he had found the plan useful. As soon as the wheat-crop was off, he sowed the land with vetches and winter oats, mixed. In the spring—say in April—the sheep having fed-off the vetches, he ploughed the land, and drilled-in about 3 cwt. of superphosphate, with early dwarf rapeseed. This came off by about the end of June or the first week in July, when there was quite time enough to sow any of the common turnips, or even the hybrid turnips. If the land were at all tenacious, after the rapeseed had been fed-off the first time, he horseshoed mustardseed in with the rape, which then came a second time, and was a most valuable food for a flock of ewes during the autumn, especially at the period when the tups were

turned to them. That was, he knew, a considerable change in the rotation; and he had no wish to go further than to say, without laying down any absolute rule, that the crops must be varied in a manner suitable to different soils and climates, which would be very beneficial to tenants as well as landlords. One or two words with regard to the management of hedges. In his county, which was one of the driest counties in England, the hedges were perhaps the worst, the main cause being that the bank, and not the hedge, was the fence. The hedges ought to be planted, as was the case in the midland counties and in Lincolnshire, as near the ground as possible. He had planted a considerable quantity of quick during the last few years, and preferred trimming them in the wedge form, which was recommended by Mr. Smithies. He had no doubt that the use of salt was in many cases very advantageous; but he thought wide drilling had quite as much to do with the stiffening of straw as the application of salt. When wheat was drilled 10 or 12 inches wide, he had found the straw much heavier and standing much better than when a different mode of cultivation was pursued. He thought the application of salt, mixed with guano, tended very much to stiffen the straw.

Mr. SKELTON: What is your opinion of the relative value of artificial manures?

Mr. HOBBS said he was of opinion that, for the wheat crop, especially on heavy land, guano mixed with salt was the most beneficial manure that could be applied, far surpassing any farmyard manure. He had used guano to the extent of from 2 to 4 cwt. per acre, during the last two years; and wherever he applied it on mangold-wurtzel, the result had not been satisfactory. For a climate where the rain-fall did not exceed 16 inches, he should recommend superphosphate for root-crops, instead of guano; but for wheat-crops, on heavy land, he had found nothing answer so well as guano mixed with salt.

Mr. MAUND (Ty-mawr, Abergavenny) said: He farmed in a part of Wales where labour was as expensive perhaps as it was in any part of England. The system in general use there was the four-course system; and after what he had heard, he thought the adoption of the six-course system, which appeared to yield a much better return, would be especially advantageous in a district where labour was so dear.

Mr. LYALL (Lincolnshire) said: The system advocated by Mr. Wallis was no doubt the most profitable in that gentleman's own district; but in his district there was a great deal of light land, which his experience tended to show might be cultivated much more profitably on the four-course system than on any other. On the Lincolnshire Wolds he found that, instead of artificial manures being so injurious to the turnip as they appeared to be elsewhere, farmers could not produce turnips without them. Last year he manured a field of 46 acres heavily with good cake manure, the quantity being, in fact, seven or eight cart-loads per acre. In addition to that, he put three loads of compost through the drill, mixed with 4 cwt. of nitro-phosphate or Odam's blood manure. This was divided into ten heaps. After having

ascertained how many bushels it took to work through the field, they left a division of two drill ridges between the heaps to see what would be the effect without nitro-phosphate or Odam's blood manure; and where that division occurred there was not so much produce by half the quantity per acre as where the nitrate was used. Having commenced growing mangold wurtzel only four years ago, he had found a gradual improvement, and his crop this year was almost ready for horse-hoeing. He used 2 cwt. of guano per acre, 3 cwt. of salt, and 3 cwt. of nitro-phosphate, in addition to farm-yard manure. He applied guano broadcast. His experience had led him to the conclusion that if they made a proper selection of seeds they not fear the deterioration of the turnip crop; and he was convinced that on the light wolds and heath lands of Lincolnshire the four-course system was the least expensive and the most profitable.

Mr. PARKINSON enquired how long the four-course system had been in operation there?

Mr. LYALL said it began before his time.

In reply to a question from Mr. Hobbs,

Mr. LYALL said: The land of which he had been speaking was enclosed more than half a century ago.

Mr. PARKINSON would be glad to hear some old Lincolnshire farmer state what had been the effect of using artificial manures on the heath lands of that county.

Mr. HOOKER (of Horley, Surrey) said the mode of farming adopted on stiff soils by some farmers in his county was this: They grew wheat alternately with green crops; first wheat, then tares, which are fed off by sheep, or cut up for the cattle after the tares are off; the ground is immediately ploughed up, and rape is sown, which is also fed off by sheep, to whom oilcake is given; the land is then ploughed for wheat; and this mode of cultivating is found very advantageous on stiff soils. Beans are sometimes sown instead of tares, and rape drilled in between the rows in the summer, and hoed in after the beans are harvested; this is fed off by sheep as before stated. He (Mr. Hooker) had seen turnips fail on land which had never received any artificial manure, and, in his opinion, the use of these manures had nothing to do with the failure of the turnip crop.

Mr. P. F. PELL (Scopwick, Sleaford, Lincolnshire) said for the last three or four years there had been great complaints in the part of the country with which he was connected of the failure of the turnip crop; and he knew that the great bulk of the farmers in the wolds and heaths said that the turnip was much more liable to decay than it used to be (Hear, hear.)

Mr. LYALL wished to know whether he was right in supposing that Mr. Wallis advocated the use of farm-yard dung and bones for turnips in preference to other manures.

Mr. WALLIS: Yes.

Mr. LYALL said the reason why he had asked the question was, that in his own county an experiment was made last year which was a good deal talked about, and was attended with important results. Mr. Fowler, of Kirton-in-Lindsey, a gentleman who was a strong ad-

vocate for the use of bones, employed them in opposition to a dozen competitors who used other kinds of manure, and the result was that Mr. Fowler's crop was decidedly the worst of all.

The CHAIRMAN, in closing the discussion said he was a great advocate for the use of salt on light soils, or soils of a mixed character. He himself had used 4 or 5 cwt. per acre mixed with guano as an application for mangel, and also 3 or 4 cwt. of salt mixed in the same way for turnips, besides farm-yard manure; in fact he had used these dressings this season for both mangel and turnips. He should, however, have great hesitation in using so large a quantity of salt on strong or sticky land. He also agreed with much that had fallen from Mr. Wallis in reference to the annual cutting or trimming of hedges, for the reasons he has so well laid down; although he deprecated over-grown hedges.

Mr. O. WALLIS, in replying, said he could not admit that the failure of the turnip crop was attributable to the use of artificial manures. Some of the worst tubers he had ever seen were on land where no artificial manure at all had been used. He believed the falling-off was

owing to the abstraction of some important element from the soil by the too frequent growth of turnips; and, far from thinking that artificial manures had contributed to it, he was of opinion that the introduction of them had tended very much to keep the turnip afloat (Hear, hear.) His remarks with regard to straw applied not to wheat, but to barley. Every one was complaining of the failure of the barley crop, both in quantity and quality. Salt was very good for light land, but where it was applied to heavy clay soil he had seen the land become so tenacious that the crop was a failure for two or three years afterwards. The Lincolnshire wolds were not to be compared with the old arable districts of the country as regarded the turnip crop, having been broken up only within a period comparatively recent (Hear, hear.)

On the motion of Mr. SKELTON, seconded by Mr. PAIN, a vote of thanks was given to Mr. Wallis for the manner in which he had introduced the subject; and the proceedings terminated with the customary acknowledgment to the Chairman.

THE FUTURE COURSE OF THE TRADE OF THE NORTH AMERICAN WATERCOURSE.

British Columbia, and that portion of the British possessions to the east of the Rocky Mountains, and to the north of the Missouri river and Lake Superior, have not been adverted to in the previous articles. The omission was suggested by the circumstance of that district being non-producing, and likely to continue non-producing during the present century. That portion of Columbia watered by the Fraser river will no doubt become the permanent abode of an enterprising people, and agriculture will perhaps ultimately receive more attention than the arduous and uncertain occupation of washing and digging gold. Be that as it may, the Rocky Mountains impose an insuperable barrier to the transportation of cereal products either to the sources of the Bullpond river or the Missouri, and, therefore, the district of Columbia proper cannot possibly ever become tributary to the watercourses of the Mississippi and St. Lawrence rivers. Then the contiguous territory, that stretching to the Canadian borders, is too distant from a market; and, although its population, without much trouble, could grow twice or thrice the quantity of wheat and corn that they could consume, and in one year graze as many sheep and cattle as would supply their wants in raw material for a century at least, still their secluded pastoral life would have few attractions to the world without. It is nothing that within the territory numerous groups of Englishmen—or Scotchmen, as some would prefer to say—have been settled with their families for years, and are contented and happy, in the midst of plenty. These, after years of miserable isolation, in the miserable service of the Hudson Bay Company, trucking small articles to painted savages in exchange for skins, and subsisting occasionally on flesh which has been only thawed over a spirit lamp, in the dreary snow-house, have lost all recollection of the amenities of English life, and probably would feel uneasy if again placed within their reach. But to the English operative of the present day something more than mere bread and butter, and hoddan gray and seal skin, are necessary to make his state com-

fortable and his home happy, and a region offering nothing more, and that little, for more than half the year, with the accompaniments of arctic storms and frosts and snow, will be religiously eschewed.

Even to the agriculturist, settlement in such a district would be accompanied with discouragements and privations of the most trying kind; and these have only to be pointed out to keep the present race of needy English farmers and rural labourers from putting foot either on the grassy plains and valleys of Lake Winipeg or the Saskatchewan. In the first place, the great and peculiar scourge of that district—interested statements to the contrary notwithstanding—is the occasional descent of clouds of grasshoppers upon grain-bearing fields, and the consequent destruction of every vestige of the crop. Then again on the breaking of new soil, the unacclimated are subject to severe attacks of ague and intermittent fever, and the luxury of good drinking water is very rarely to be enjoyed. To be sure, these last can scarcely be said to be peculiar to the region, as the immigrant settler in Illinois is liable to contract ague in the neighbourhood even of a new-dug well, and Illinois prairie water is the poorest beverage in the water way that probably a man can take; but with respect to ague and intermittent fever, in the interior of the United States, observation seems to show, that inversely as the distance from the ocean is the liability to become infected with such disease. These are weighty reasons against the settlement of that portion of the British possessions, at the present time, but not the most weighty that may be urged.

In speaking of the border lands of the Saskatchewan and the Red River of the north, as promising at no distant period to yield large supplies of wheat and corn, it is scarcely necessary to remark, that the popular idea is, that these supplies would find their way to Europe. The fact is, such an anticipation recommends the new territory to the British public, and forms the groundwork of the condemnation of the Hudson Bay Com-

pany, and their obstructive and too frequently oppressive rule. But that anticipation is not likely to be ever realized. Even were the district or territory to become settled, it would only be when European prices were at an extreme famine range that grain could be moved so far with the chance of profit; and it is not likely, in our day at least, that anything worth the name of settlement will be made. The reason is very obvious. In the first place, no special advantage is to be derived from penetrating so far into the country, as it is quite possible to obtain land, or business of any kind, on as good terms as can be offered there, at a less remote distance from the seaboard; and with every other thing equal, the nearer the American farmer is, we shall say, to New York the better, as, in proportion to his nearness to that market, will his transportation charge be reduced, and his returns increased. If, for example, the New York market price of western wheat were one dollar a bushel, and that wheat could be produced on the same terms on Staten Island, in the immediate vicinity of New York, as on the Saskatchewan, then the Staten Island farmer would derive the full difference between the mere production cost and the market price, while the farmer on the Saskatchewan would probably find the market price insufficient to pay the mere cost of transport. Such being the case it is vain to speculate, at the present day, on the probability of immigrants passing Missouri, and Illinois, and Iowa, resolved to immolate themselves in the dark dreary north, where each man produces wheat and corn for his own domestic wants, patronises the home-spun manufactures of his wife and daughters, and in his own tailor and barber, and the maker of his own boots and shoes.

The importance of the principle here involved renders it necessary to be circumstantial, and, as near as can be, accurate in detail.

The British possessions, east of the Rocky Mountains, and west of Lake Superior, measure rather more than twelve degrees of longitude; say a thousand miles. Then the distance from the Red River to the Upper Mississippi, and from the Upper Mississippi to Chicago, must be taken into account. Altogether it [would be] within the mark to place the whole distance from the new territory to Chicago at about the same distance as Chicago, by lake and canal, is at present from New York; and, assuming that the new territory were provided with the necessary canals to the Mississippi, the cost of transportation from the new territory to Chicago might be assumed to be about the maximum transportation charge from Chicago, by lake and canal, to New York. Taking these estimates as the closest approximation that can be formed, the disadvantage of the new territory, in a merely commercial view, as compared with Illinois, in the New York market, appears to be as follows:—

I.		s. d.
Western wheat in New York market per 60lbs.	4	0
Cost of wheat in Chicago per bush.	1s. 8d.	
Cost of transportation to New York, and charges 1s. 0d.		
	2	8
Advantages per bush. to the Illinois farmer in New York	1	9

II.		s. d.
Western wheat in New York market per 60lbs.	4	0
Cost of wheat per 60lbs. at Lake Winnipeg ..	1s. 3d.	
Cost of transportation to Chicago	1s. 0d.	
Cost of transportation to New York	1s. 0d.	
	3	3

Advantages per bushel to the Lake Winnipeg farmer in New York	0	9
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III.		s. d.
Advantage to the Illinois farmer in New York	1	9
Advantage to the Winnipeg farmer in New York	0	9

Difference in favour of Illinois

But western wheat may be only worth sixty cents, a bushel in New York, at which price let us ascertain the different results—

I.		s. d.
Western wheat in New York market per 60lbs.	2	6
Cost of wheat in Chicago per 60lbs.	1s. 3d.	
Cost of transportation to New York, and charges 1s. 0d.		
	2	8

Advantage to the Illinois farmer in New York	0	8
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II.		s. d.
Western wheat in New York market per 60lbs.	2	6
Cost of wheat at Lake Winnipeg per 60lbs.	1s. 3d.	
Cost of transportation to Chicago	1s. 0d.	
Cost of transportation to New York	1s. 0d.	
	3	3

Loss to the Winnipeg farmer per bushel in New York	0	9
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If the communication were by the head of Lake Superior, and down the lakes without touching at Chicago, the figures would not be much varied, in consequence of the extra charges of one more canal, and that new canal would be the most costly of the whole. But is it likely, in the absence of settlement, that either of these great undertakings, the forming of a continuous watercourse from the Mississippi, and from the head of Lake Superior, to the base of the Rocky Mountains, will be entertained by the monied men of New York and Europe? and without the liberal support of these, nothing can be done. When settlement, in the course of ages, has been made, and capitalists have seen the expediency of so large outlays to facilitate the development of internal trade, it is more than probable the channels of the Mississippi will have received such extensions and improvements as they imperatively require; and with these perfected, there will be no chance whatever of Lake Superior ever becoming afterwards the great thoroughfare of western trade. The claims of the cold granite shores of Lake Superior, with their hungry soils, may therefore be set aside, both for the present and the future.

After these incontrovertible remarks, the absurdity of a Pacific railroad is at once manifest. There would be no people to profit by its use; and if people were ever tempted by grants of lands, and otherwise, it is not easy to understand what good they could accomplish. Even with wheat at famine rates in England, railroad transportation could be used only in a limited way; while in times of low prices, none but a local market could be found; and if all were producers, who would purchase?

Dismissing, therefore, the Columbia and Lake Superior districts, we turn to the proper subject of the present article—the future course of western trade.

As observed before, it is taken for granted throughout the United States and Canada, and Europe, that Chicago is the great outlet and mart of western trade. Railroads and canals have been formed on the faith of that assumption, and canals of enormous magnitude, as we shall see presently, are still projected, with the view of facilitating transportation in what is not only regarded as the right, but as the only channel. Strange to say, no voice has yet been raised to call in question that opinion; and St. Louis and New Orleans do not yet seem to think of the advantages of the Mississippi outlet. The conditions of the growth of Chicago trade have been adverted to before, but there is no accounting for the easy way in which the claims of the St. Lawrence outlet have received so general acceptance. Probably the prominent interest taken by the British

Government in the opening up of the trade of Canada, and the subsequent action of the New York State Legislature, in authorising the construction of the Erie canal as the complement of what the British Government had done, impressed the public of the United States and England with the belief that no other means existed of opening communication between the west and east.

But supposing that Canada had been included in the national domain of the United States, and Louisiana had been the dependency of the British crown, and that the British Government had done as much for the development of Louisiana trade as it has done for the trade of Canada, is it not likely that the Mississippi outlet would have occupied the same place precisely in the estimation of the public at the present time as the St. Lawrence outlet does? Then Canada, but for its climate, would have been cursed with slavery, and the attention of the United States and of the world would have been diverted from it, and the merchant flags of Europe would, of course, have floated on the Mississippi as they now do on the St. Lawrence, and St. Louis would have been in the position of Montreal.

Is there, then, any peculiar fitness in the St. Lawrence channel, when the circumstances under which it has been opened are brought to light, and any soundness in the popular schemes and theories which have in view the permanence of the present course of western trade? Above all, in an economical and progressive age, is it likely, if a really better channel exists ready made, that it will continue overlooked? Let its advantages but be known, and let the strategic origin and purpose of the St. Lawrence outlet be freely canvassed, and by virtue of a well-known law, the Mississippi will become the great western ocean highway.

It is not surprising, when so little attention has been given to the St. Lawrence outlet, that the different schemes of shortening distance between Chicago and New York and Montreal should be judged in a superficial and unsatisfactory way. The universal test employed is the mere distance to be saved; and, strange to say, there is no agreement in the different distance computations of different parties. Each party compute distances in their own way, and generally do not seem to hesitate to place the favoured scheme as far a-head as possible, and all opposing schemes well behind. Strange to say, the imposition appears to be unnoticed, and the scheme, no doubt, about which most untruth is told receives the greatest share of public favour. The following are official contradictions of the distance between Chicago and New York and Montreal:—

COLONEL MASON'S REPORT.

I. Chicago to New York by Erie Canal.. 1,425 miles.

McALPINE'S REPORT.

II. Chicago to New York by Erie Canal.. 1,418 "

HORACE GREELY.

III. Chicago to New York by Erie Canal.. 1,596 "

McALPINE'S REPORT.

IV. Chicago to Montreal by Lake 1,278 "

HORACE GREELY.

V. Chicago to Montreal by Lake 1,450 "

These figures form the basis of calculations as to what the transportation of a ton of produce will be from one point to another, and the least expensive route, or what necessarily is the same thing, the shortest distance from one point to another—say, from Chicago to Montreal—is held to be the best, and the one which the public should sustain. For example, McAlpine takes the distance between Chicago and Montreal at 1,278 miles, and rating transportation

and charges at so much a mile, arrives at the conclusion that a ton of merchandise can be transported at nineteen shillings and sevenpence. Horace Greely, of the *New York Tribune*, takes the distance between the same places at 1,450 miles, and rating transportation and charges at so much a mile, arrives at the conclusion that a ton of merchandise can be transported at one pound three shillings and three pence. Obviously Mr. McAlpine is in the interest of Montreal—at the time of that report he was, in fact, in the pay of Montreal—while Horace Greely is as obviously on the other side. So much for the trustworthiness of American reports, and for the principle on which they are made.

But supposing that exception could not be taken to the figures, and agreement as to distances were established between conflicting interests, it must be obvious that a glaring fallacy underlies all applications of the distance test. Obviously the public are concerned only with the actual cost of transport, and are indifferent whether their goods are carried on a bee-line or on the circle; and as obviously the mere circumstance of one railroad, or canal, or water-course being at a shorter distance than another from a given point practically amounts to nothing, as the transportation charge must necessarily be the same. But further, perhaps the shorter distance of a new competing route, whether railroad, or canal, or water-course, would be attained at a greater outlay than if a less direct course were taken, and in such a case the shorter distance would do as little good to the proprietors of the stock as to the public.

With the exposure of this popular error, it becomes necessary to recur to the geography of the region of the lakes. Chicago stands at the head of the navigation of Lake Michigan. Glancing on the map from Chicago to New York and Montreal, and then tracing the line of water-course, scarcely a more tedious channel can be conceived. First of all, the peninsula of the State of Michigan has to be rounded, then Lake Erie entered, then Lake Ontario and then the St. Lawrence river; and if the destination is New York, the Erie Canal is entered either at Buffalo on Lake Erie, or at Oswego on Lake Ontario.

There is thus water communication between Chicago and New York on the one hand, and between Chicago and Montreal on the other; and the produce of Chicago may be shipped to either of these ports, and the imported or manufactured articles of these ports sent to Chicago. Chicago also, by virtue of its water communication with Montreal, may carry on an independent import and export trade with the world without; and when the Erie Canal has been enlarged, as is proposed, to the extent necessary to admit of the passage of sea-going vessels, cargoes of cereal products may then be shipped at Chicago, and conveyed direct to Liverpool by that route also.

Two years ago, the Chicago schooner, "Dean Richmond," made the voyage of the lakes and the St. Lawrence, and reached Liverpool in sixty-two days. Last year the channel schooner, "Madeira Pet," made the voyage to Montreal in thirty-five days, and the voyage from Montreal to Chicago in forty-five days—eighty days in all; and the return voyage to Liverpool in sixty-five days. The registered tonnage of the first-named vessel is 387 tons, and of the other 123 tons. Since then, numerous vessels have made the passage to and from the lower lakes, but without materially shortening the time of either the "Dean Richmond" or the "Madeira Pet."

From Chicago to the lower end of Lake Erie, at Buffalo, there are no canals nor locks, and therefore no limitation to

the tonnage of sailing or steam vessels, but the depth of water on the east shore of the State of Michigan, known as the flats of the Detroit river, and Lake St. Clair: on these flats there is seldom more than ten feet of water, and sometimes barely that; but, notwithstanding, a large proportion of the carrying trade is done by vessels of from four to six hundred tons burthen, built long, with great breadth of beam, and the least possible depth of hold. The models of these large Buffalo-going vessels is usually good; but the building, in the absence of tree-nails and iron knees, is slim and not sufficient for the conveyance of dry cargoes, after the wear and tear of a few seasons. The practice is to lay these vessels up in harbours during the winter months—from November till May—as the peculiar construction of the keel for shallow water and general weakness render them unfit for outside coasting trade. In the summer season, it may be observed, these United States vessels have the privilege of the coasting trade of Canada, while Canadian vessels have no such privilege accorded them on the coast of the United States, although, by the treaty of reciprocity, the Federal Government engaged to press upon the New York State Legislature the justice of opening its internal and coasting trade to Canada vessels. So far as principle is concerned, the province of Canada has no reason to complain if United States vessels compete in its coasting trade, as it thereby reaps the benefit of lower freight; but the competition has hitherto pressed unduly on the Canadian lake shipowner, who, be it observed, is not in a position to trade outside of these inland waters, and can only employ his vessels during the six summer months. Practically, then, the United States shipowner is in a position—the principle of free trade notwithstanding—to drive away every Canadian lake shipowner to the wall, and strong remonstrances should be made at Washington by the British Government. Perhaps, however, the Canadian Government itself would have more influence at Washington; but, unhappily, the government of that province is invariably in the hands of men too much occupied with the sordid aggrandisement of themselves or partisans to give attention to such a subject.

Between Lake Erie and Lake Ontario the first canal—the Welland—is encountered, on the voyage downward from the upper lakes, and its capacity limits the size of vessels for the St. Lawrence river trade. The extreme length of lockage is one hundred and forty-five feet, the breadth twenty-six feet, and the average depth ten feet. The lockage on the St. Lawrence canals lower down is much the same, and vessels passing the one canal pass the others, and *vice versa*. Below Buffalo there is, therefore, a smaller class of vessels than some of those exclusively employed in the Buffalo and Chicago trade. These vessels, generally, are built to the full dimensions of the locks, and have a crowded unfinished look about the head, with straight stems, and no cutwater, and their capacity varies from fourteen to twenty thousand bushels wheat; a few vessels carry beyond the twenty thousand bushels, and that large carrying capacity is owing to the absence of fixed keels, and the use of a moveable keel, or centre-board, which is drawn up in passing through canals, and let down in deep water. In making the downward voyage, below the Welland canal, vessels usually avoid the canals by shooting the St. Lawrence rapids, and bringing up at Kingston, in the vicinity of Montreal. On the upward voyage, the river rapids have necessarily to be avoided in every case, and the canal towage becomes a tedious and expensive operation.

The shallowness of the water on the St. Clair flats has for

some time occupied the attention of the United States Government, and considerable appropriations have been made. There is frequently, however, a considerable current setting down from Lake Huron, no doubt charged with sand and other residuum, which speedily replaces all that is dredged away. Still it is believed to be possible to deepen the channel permanently, and to keep it open; but in the present state of the Federal exchequer, no large outlays are likely for some time to be incurred. The deepening of the channel, it is scarcely necessary to remark, is calculated to promote the development of lake trade, as the employment of larger vessels would cheapen transportation. Western people insist that there should be sufficient depth of water for vessels of eight hundred or a thousand tons, and until that has been provided, the subject will no doubt be kept prominently before the public.

So soon as the flats are in a fair way of being deepened to the extent named, it is proposed to enlarge the Erie canal sufficiently to admit of all vessels passing over the flats continuing their voyage to New York, or to Liverpool direct, if that should be desired; but it is questionable whether so stupendous an undertaking will ever be carried out, the distance from Buffalo to Albany being stated at three hundred and fifty miles. Recently, a considerable enlargement of the Erie canal has been made, and small steam propellers will speedily take the place of horse tow boats. Several propellers are now employed, and, as is to be expected, the working expenses are curtailed, and the duration of the voyage shortened.

The American purpose of deepening the St. Clair flats, and rendering the Erie canal available for sea-going vessels, naturally excites uneasiness in Canada, and has led to the agitation of numerous counter schemes. The most prominent of these is the enlargement and deepening of the Welland and St. Lawrence canals to the extent necessary to pass vessels of eight hundred or a thousand tons. With that done, western produce would continue to have the choice of markets at New York or Montreal; while, with nothing done, and the American schemes carried out, the whole carrying trade would pass to Buffalo. New York sympathises with the enlargement of the Welland canal, as that done at the expense of Canada would confer as much benefit on Oswego as the deepening of the St. Clair flats would confer on Buffalo, and transportation is cheaper by Oswego in consequence of the saving of somewhere in the neighbourhood of one hundred and fifty miles of canal.

American sympathy with Canada stops, of course, at the enlargement of the Welland canal; but Canada would extend the principle of making the lake and river distance as long as possible, and the canal distance the least that could be, and purposes that western produce, in making for New York, should proceed by the Welland canal to the immediate neighbourhood of Montreal, where a short canal, of the same capacity as the Welland, would open into Lake Champlain, and another short canal open out from Lake Champlain into the Hudson river. The distance from Chicago to New York by this, the Welland, St. Lawrence, Caughnawaga, Champlain, and Hudson river routes, according to McAlpine, is one thousand six hundred and thirty-two miles; while the distance from Chicago to New York, by Oswego and the Erie canal, is one thousand four hundred and ten miles; and the distance from Chicago to New York, by Buffalo and the Erie canal, is one thousand four hundred and eighteen miles. But on the Caughnawaga route there would only be one hundred and sixty-seven miles of canal; while on the Oswego route there would be

three hundred miles; and on the Buffalo route three hundred and fifty-three miles.

The expense of transportation on the lakes and the St. Lawrence River, as compared with transportation on canals, makes the Canadian scheme show well on paper; but Canada is not strong enough to command the whole mastery of western trade, and to force the carrying into its own channel; and it is certain that were the Caughnawaga route open, the charges on the Erie canal would be brought down to the same level, while Americans at all times would unquestionably—from mere national vanity, if from nothing else—give the preference to their own carrying channels. For these reasons the Caughnawaga project is not likely to be sustained by monied men.

The present disadvantageous position of Canada in the carrying trade is very striking. Taking Chicago as the present great port of supply, and Buffalo and Oswego as the present great ports of shipment to New York, Canada, by virtue of the absence of the American coasting privilege, is precluded from carrying from the great port of supply to the great ports of shipment; and Canadians embarking in the western produce trade are necessitated, in great measure, to send their purchases on American bottoms to American ports, while, it may be, vessels their own personal property are lying unemployed in Chicago river. These Canada vessels carry lumber to Chicago, and trust to get grain cargoes to the Canada ports of the Welland district, or to Montreal; and it is scarcely necessary to remark that New York is much oftener the best market; and besides, the port to which, in the long run, every kind of Western produce goes, be the market price what it may. Often, therefore, while American ships, are actively employed in the Buffalo and Oswego trade, and have besides the refusal of what is going to Canada, the Canada shipowner is at a loss what to do. As if to add insult to injury, there is no Court of Admiralty in Canada, and the maritime questions of the provinces are determined by American courts of law.

Some three years ago the Hon. John Young, of Montreal, in "Letters to the Hon. Francis Lemieux, Chief Commissioner of Public Works, and to the Citizens of Montreal," drew attention to the declining state of the Montreal and St. Lawrence river trade, and broached the subject of the Caughnawaga. The hon. member proceeds: "Let it be remembered that previous to 1849, before the United States Bonding Act came into operation, there was no exportation of cereals from Canada to the United States, or next to none. But what has been the amount of wheat and flour so exported since that date? Reducing wheat into flour, the amount will be found to be as follows:

In 1849	24,936 barrels.
1852	466,912 "
1854	762,575 "

Look now at the quantity of wheat and flour received by canal and river at Montreal:

In 1846	967,286 barrels.
1852	710,749 "
1854	594,394 "

These facts conclusively establish the practical superiority of the present routes by the United States over the Canadian route.

The total movement of property on the Erie Canal was, in 1853	4,000,000 tons.
On the St. Lawrence Canals, in 1853	561,000 "

Difference	3,439,000 "
"The average receipts of vegetable food at tide-water in the Hudson River, reduced to barrels, was as	

near as possible, for the years 1851, 1852, and 1853	8,000,000 barrels
"The receipts by canal and river at Montreal for the same period was equal to	750,000 "

Difference 7,250,000 "

"The receipts of grain alone at Oswego and Buffalo during October and November of this year (1855) exceed 5,000,000 bushels, while the total receipts of all kinds of grain at Montreal, by river and canal, since the opening of navigation up to the 30th May (for the whole season!!), from both Canada West and the Western States, was only 1,300,000 bushels.

"The average exports for the years 1851, 1852, and 1853 of vegetable food at the port of New York was equal to	3,000,000 barrels.
"The average export of food at Quebec and Montreal for the same period was only	652,000 "

Difference 2,348,000 "

Mr. Young then proceeds to point out the disadvantages of Montreal as a port of shipment compared with New York. He states: "The freight of a barrel of flour in seven months—say, from 1st May till 1st of December, from Montreal and New York respectively, was, in the years here quoted as follows:

NEW YORK TO LIVERPOOL.

	s.	d.		s.	d.	s.	d.		
In 1846, average	2	8	sterling; range, from	1	9	to	5	0	
1847	...	3	9	...	1	0	to	2	6
1848	...	1	8	...	1	0	to	2	6
1849	...	1	7½	...	0	6	to	2	3
1850	...	1	3½	...	0	9	to	1	9
1851	...	1	1½	...	0	8	to	1	9
1852	...	1	4½	...	0	9	to	3	6
1853	...	2	6	...	1	6	to	3	6
1854	...	2	6	...	2	0	to	3	1

MONTREAL TO LIVERPOOL.

	s.	d.		s.	d.	s.	d.		
In 1846, average	5	2	sterling; range, from	4	6	to	6	0	
1847	...	5	4	...	3	6	to	7	0
1848	...	4	2	...	2	9	to	6	0
1849	...	3	6	...	3	0	to	4	3
1850	...	3	0½	...	2	6	to	3	9
1851	...	2	11½	...	2	4	to	3	7½
1852	...	2	11½	...	2	7	to	4	0
1853	...	4	3½	...	3	9	to	5	9
1854	...	3	2	...	2	0	to	3	9

Showing an average higher cost of 100 per cent. in these nine years in ocean freight by the Montreal route."

It is needless to follow Mr. Young further. Canada is not the place represented, and not the place the British public so much desire it should be. Whether looked at in an agricultural or produce-carrying view, its future is alike dark and dubious. The settler merely wastes his time and substance in a hopeless struggle against natural obstacles, if not against Nature altogether; while elsewhere—upon the prairie—he would reap benefits commensurate with the privations incidental to the life of the pioneer; and there are many reasons why produce should take the route of the Erie Canal in preference to the St. Lawrence river.

Besides those Canadians who follow the lead of Mr. Young in the advocacy of the enlargement of the canals and the opening of the Caughnawaga route, there are others who, with perhaps a better appreciation of the hopeless state into which Canada is fast drifting, strike an entirely new chord, and propose to divert Chicago trade past Buffalo and Oswego altogether. A glance at the map of Canada will

show what this other, the unquestionable Canadian party, have in view. At the head of the Georgian Bay, the inlet of French river leads to lake Nipissing, and lake Nipissing is not far distant from the Ottawa river, and the Ottawa river enters into the St. Lawrence in the vicinity of Montreal. Supposing, then, that the navigation of French river and the Ottawa were improved, and a canal constructed to connect the two together, a short cut would be provided to Montreal; and to New York also, if the Caughnawaga route were open. The St. Clair flats and the Welland canal might then continue as they are, and the tedious navigation of the lower lakes be dispensed with altogether. But Mr. Young and his friends are not prepared to go so far; and a half-and-half measure—half American and half Canadian—receives the largest share of public favour. It is proposed not to take the truly Canadian Ottawa route, as that would be ungracious to our American neighbours, and oblige them hereafter to compete for Western trade,

through the long length of the Buffalo branch of the Erie Canal, and put them wholly in the back ground, of course—the Welland Canal not being adapted to the passage of ships of a thousand tons as the Ottawa river would be—and a new canal would be opened from the Georgian Bay to Toronto or Peterborough, or some other paltry place. This proposal meets the views alike of the sapient Toronto people and of the American Boards of Trade, as then it would still be easy to pass produce by way of Buffalo or Oswego, and the full benefit of the shorter distance and cheaper transportation be secured. So far has this last-named scheme progressed, that the route has been surveyed and the work estimated by a Toronto and Chicago engineer, and their report published, with the subscription funds of the members of the Chicago Board of Trade. But from five to ten millions sterling will be required to open up this bastard route; and when the debentures arrive in London, it is more than likely London people will be on their guard.

ESSEX AGRICULTURAL ASSOCIATION.

MEETING AT COLCHESTER.

This new Society has now tested its strength beyond the perhaps somewhat flattering experiment of "an opening day." There is no cause, either, to be at all disappointed with the result. It is true that the Colchester Show tried on its general merits is by no means equal to that which inaugurated the Association's proceedings at Chelmsford. The great element of success, however, has been clearly attained. The whole county goes heartily with the undertaking. We remember no occasion better supported by the gentry, the farmers, and the town's people of a district than this gathering at Colchester. Every one appeared to take a direct interest in what was going on; and without any statistics at our elbow, we should say the attendance was far greater than that of the year preceding. The only unfavourable comparison was to be found amongst the exhibitors themselves. The entries were not so numerous, and in some classes, more especially, the character of what was sent not so high. In fact, the Colchester meeting suffered materially from the default of a gentleman who was still one of its chief supporters. Mr. Fisher Hobbs gave all the weight of his experience and his ability to the conduct of the show, but he did not add to its attractions by the entry of a single animal. The Herefords, the Alderneys, and the black pigs that did so much for Chelmsford, did nothing for Colchester. Mr. Oxley Parker, as one of the stewards, very properly referred to this at the dinner, characterising the delicacy which caused the withdrawal of the Boxed stock, as "a too squeamish attention to what some people might say." It is very certain that Mr. Hobbs would have done far more for the meeting by taking all the prizes he could, than by not trying for any. In a county exhibition, more particularly, it is the duty of every one to make it as good as possible. The lesson, otherwise, is only half-taught.

Fortunately some successful exhibitors were not so

considerate, and Mr. Badham, Mr. Bramston, Mr. Upson, and others, were again in the field. The first named of these gentlemen had clearly the honours of the day, for, like its next door neighbour in Suffolk, the Essex Association depends in a great degree upon its entry of agricultural horses. Mr. Badham signalized himself much in the same way he did last season, and with very much the same materials. There is no prohibition to the same animal taking the first prize year after year, and consequently the famous Chester Emperor was once more on the ground. He did, too, precisely as heretofore, carrying away the first prize of the county class, and the all-England premium for the best draught-horse of any sort and from anywhere. The competition, however, was confined to the chestnuts, the most noted animal sent from "other parts" being Stearn's Boxer, a prize horse at the Windsor and Lewes meetings of the Royal Agricultural Society, as well as the winner of "no end of things" in his own district. But Boxer is getting in years, and the judges did not even commend him. Emperor, on the other hand, is just in his prime. He has gone on improving and thickening even since last year, and is now about the most handsome cart-horse ever seen. His "quality," as they call it, is extraordinary, and his head and forehead as beautiful as a picture. There were some who would not "have" Emperor on his first coming out, but they must be convinced by this. Mr. Badham was proportionately strong with his mares, with which he took the first and second prizes of their class. He then coupled them together, and made "the best pair of plough horses" one might fancy the judges ever looked over. We should wonderfully like to see them again at Warwick, with one of the prize ploughs behind them. Of great size, roomy, and weighty, they had still that fine look that the Bulmer teams are peculiarly remarkable for. The pig eye and the heavy sour head of the Suffolk

seem also to have gone from amongst them. Perhaps the neatest specimen of what the Suffolk proper should be was Mr. Partridge's second prize stallion. Of a very compact frame, he had all the "roundness" and old Punch character, with the as proverbially plain front-piece. Mr. Biddell sent a useful three-year-old filly of great substance, that took the cream of a small class; but her colour, a bad mealy chesnut, was all against her. As the prize list will tell, there were some other good names, such as those of Mr. Carter, Mr. Upson, and Mr. Sturgeon, in the catalogue; but on the whole the show of Suffolks was rather a rough sample, and there were stories flying about as to the breed not being kept quite so pure as it might be. One of the prize chesnuts, for instance, was said to be got by a Shire horse; and another, highly commended, was known to have a bay brother and a black mother! It will scarcely do to be "squeamish," as Mr. Parker would say, about "red to the hoof," or grey hairs, after this; and we were pleased to see the judges make the question of colour anything but a leading point.

For some reason or other we cannot give, that national institution, the thorough-bred horse, does not appear to flourish in Essex. At Chelmsford the prize was withheld from the four or five entered, while at Colchester in the county class there was only one shown, and the judges again returned the premium. An all-England offer was, however, made this year, for which Captain Barlow entered Footstool, and sent his well-known nag Revenge, or Young Recovery, as he is indifferently called. The judges, so far as they were concerned, passed this good-looking "gentleman," and the committee sanctioned the change. In the hunter class, Mr. Barker of Ingatestone sent three horses of much the same useful stamp, and had each their several admirers, while Mr. Hutley's gay galloway was again the best hackney mare, although with stronger competition against her. Mr. Smith's chesnut gelding, however, in the next class was quite as neat as anything shown in this way, and too good apparently for the collar mark on his shoulder. With more competition amongst the stallions, this would have been a very creditable collection of riding-horses, although by no means wanting in the way of comparison between the good, bad, or indifferent.

The awards over the cattle were in some degree also but an echo of the Chelmsford edicts. This was more decidedly the case with the shorthorns, where Mr. Jonas Webb had the best bull, and Mr. Bramston the pick of the cow classes. With the experience of last year still fresh on him, Mr. Webb had May Duke fairly built in, but there was no danger on this occasion. The specimen here sent from Babraham is a good even beast, but not quite so kindly to handle, nor fully up to the style and character of the admirable animal that suffered from the sun-stroke at Chelmsford. We have no doubt they have something of a little higher form at home. The other first prize bull, Mr. Upson's Hastings, was the premier of his class last year, and the difference in size between him and the second prize here, although with only a few months between them,

was very remarkable. But neither is of extraordinary excellence. Mr. Bramston must have a good herd of cows, for those he exhibits have generally the essentials of use and shape. But the strong class of the Shorthorns was the yearling helpers, five of which, out of the eleven exhibited, the judges honoured with more or less distinction. Mr. Clayden headed these with a young lady of high quality, called Luxury, and Mr. Pertwee followed with one noticable not merely for her teach and symmetry, but yet more for her frightfully deformed feet. We never saw a beast more disfigured, and yet one would have thought a little proper care in paring might have kept the hoof to something like its shape. It will soon be too late now. Although not a great show of them, there was sufficient evidence to prove that the Durhams are fast making their way in Essex. In addition to those we have named, Mr. Christy of Roxwell, Mr. Sturgeon of Ockendon, Mr. Baker of Writtle, and Mr. Chaplain of Ridgewell, are paying more and more attention to their cultivation. The other breeds mostly resulted in no entries, but we did catch sight of one Suffolk bull, and one Alderney cow. It was now that Mr. Hobbs was found wanting.

Denied the like support, the pigs made up a very scratch lot; and Mr. Biddell and the Suffolks had in very way the best of the entry. The sheep, too, were a good deal "mixed;" and we came continually on such notifications as "No award"—"Prizes withheld," and "No competition." If not much talked of, we believe there was repeated disqualification for unfair shearing; and some of the "All England" animals were thus rejected. Naturally the picked sheep of the show was here—a grand Cotswold ram of Mr. Sexton's, that, all things considered, bore his public life remarkably well. Within the two days he went through some rather smart work. He was exhibited at the Norfolk Meeting at Swaffham, on Wednesday; started for the rail at four or five o'clock, or as soon as the stock left the ground—brought up to Colchester during the night—fairly and cleanly sheared at two o'clock in the morning, and in his place for the judges at half-past seven!

The Southdowns, although some of them highly bred enough, made no great sign. Mr. Bramston's shearing ram was certainly a very pretty symmetrical sheep, but of no size; while of the eight others entered, all we learn is that the second prize was withheld. However, Mr. Burch Western, the President of the Society, kindly gave two special prizes for sheep clipped, sheared, or trimmed, just as their owners chose; and for one of these Sir Barrett Lennard's was pronounced successful. It was a close thing between Messrs. Hine and Parson's long-woolled rams; and the one judge officiating called in the aid of two of his compeers, but eventually went for his own first fancy. Mr. Hine's ram, however, told very well in the handling.

An implement and a poultry show completed the encampment on the Barrack Field. The latter was remarkable for two points entirely corroborating the view we have always held on this subject, and a long way the first to advance. The Dorkings are still rising in repute—never was there a finer display of

them—while the Uchins had at last a class refused to them. It is now admitted that they have done nothing but injury to our own native varieties, and that beyond their closeness as sitters they have no uses. Messrs. Caldwell and Hawkins, as the judges of implements, had fifty pounds to distribute at their discretion. It will be found that they appropriated this chiefly to "collections;" not a very demonstrative course of proceeding, after all. Would it not be better to signalize improvements or inventions more especially adapted to the district they are shown in? Ransomes and Sims, Garrett, Pickaley and Sims, Coleman, Bentall, Smith and Ashby, Cambridge, Turner of Ipswich, Humphries, Smyth and Sons, Boby, and Wood and Sons, were associated with Messrs. Catchpool and Thompson, and other exhibitors more identified with the locality; but we believe that some of the upper houses evinced their usual disinclination to subject themselves to the scrutiny of the judges.

The dinner was a great improvement on the scramble at Cheshamford. It was far better, too, in the way of agricultural talk, which we must leave for the present to speak for itself.

PRIZES FOR STOCK.

HORSES.

JUDGES.—Professor Simonds, Royal Veterinary College, London, Owen Wallis, of Overstone Grange, Northampton.

FOR AGRICULTURAL PURPOSES.

The best Stallion, having served not less than Twenty Mares in the County.

First prize of 15 sovs., and ALL ENGLAND SPECIAL PRIZE of 55 sovs., to G. D. Badham, Balmer (Emperor).

Second of 5 sovs. to W. P. Partridge, Elmstead (Duke).
Commended.—Charles Sturgeon, South Ockendon (Sultan); W. P. Partridge (Albert); Scragg, Clacton (Prince); and P. B. Smith, Great Clacton (Dragon).

The best Entire Two-year-old Colt.

First prize of 10 sovs. to James Brown (Executors of), Fechtod. Second of 5 sovs. to John Upson, Rivenhall (Victory).

Highly commended.—Manfred Biddle, Playford.
 The best Mare with Foal at foot.

First prize of 10 sovs. to G. D. Badham (Duchess). Second of 5 sovs. to G. D. Badham (Dapper).

Commended.—George Simpson, St. Oysth, and G. H. Cant, Myland.

The best Three-year-old Filly.

First prize of 5 sovs. to Manfred Biddle.

Second of 3 sovs. to George Carter, Danbury (Daisy).

The best Two-year-old Filly.

First prize of 5 sovs. to George Carter (Scott).

Second of 3 sovs. to G. H. Cant, Myland.

The best Yearling Colt or Filly.

First prize of 5 sovs. to G. D. Badham.

Second of 3 sovs. to W. Partridge, sen., Herkenley.

Commended.—James Toplis, Boreas, for two colts, and W. Plummer, Castle Bodingham.

The best pair of Plough Horses or Mares.

The Prize of 5 sovs. to G. D. Badham (Duchess and Dapper).

Highly commended.—George Simpson.

EXTRA STOCK.

Highly commended.—A Constable, Wormingford, for black Entire Stallion; John Quilter, Peering, for Norfolk gelding; and William Parson, Boreas, for working Suffolk.

Commended.—Thomas Ward, Elmstead, for two Suffolk Mares and Foals, and D. O. Alston, Little Bromley, for chestnut Cart Mare.

RIDING AND COACHING HORSES.

JUDGES.—W. Boulton, Guestingthorpe, Sudbury, H. Corbet, Farmers' Club, Bridge-street, London.

The best Thorough-bred Entire Horse.

The prize of 15 sovs.—Withheld, not sufficient merit.

The best Weight-carrying Mare, regularly Hunted in Essex.

The prize of 5 sovs. to J. T. L. Hallam, Wormingford.

The best Weight-carrying Hunting Gelding.

The prize of 5 sovs. to Francis Barker, Ingatstone.

The best Hackney Mare.

The prize of 5 sovs. to J. F. Huxley, Boreas.

Commended.—Geo. Maise, East Merton, and J. T. L. Hallam.

The best Gelding.

The prize of 5 sovs. to Benjamin Smith, Boreas.

The best Brood Mare, with Foal at foot.

The prize of 5 sovs. to Henry Parson, Lingham, with foal by the Unfortunate Youth.

The best Thorough-bred Entire Horse. (OPEN TO ALL ENGLAND.)

The prize of 25 sovs. to Frederick Banlow, Masketon (Recovery Junior.)

EXTRA STOCK.

Commended.—H. Hamblin, Colchester, for Entire two-year-old bay Colt, and J. R. Kirby, Hill-house, St. Oysth, for brown Hackney Mare.

CATTLE.

JUDGES.—T. Crisp, Butley Abbey, Woodbridge, W. Torr, Aylesby, Mahor, Grimsby.

Best pure-bred Shorthorn Bull.

First prize of 10 sovs. to James Upson, Rivenhall (Mastings).

Second of 5 sovs. to Charles Sturgeon (Stanzas).

Best Bull of any other breed.

The prize of 5 sovs. to J. Gordon Mew, Wivenhoe Park (Suffolk).

Best Two-year-old pure-bred Shorthorn Bull.

The prize of 5 sovs. to James Christy, jun., Roxwell (Victor).

Best Yearling pure-bred Shorthorn Bull.

First prize of 5 sovs. to John Claydon, Littlebury (Duke Humphrey).

Second of 3 sovs. to Charles Sturgeon (Sashes).

Commended.—James Christy.

Best pure-bred Shorthorn Cow.

First prize of 5 sovs. to T. W. Bramston, M.P., Skreens, Roxwell (Gemma).

Second of 3 sovs. to Richard R. Willis, Kelvedon.

Best Cow of any other pure breed.

The prize of 4 sovs. to Chas. Darling, Colchester (Aldersley).

Best pure-bred Shorthorn Heifer.

First prize of 5 sovs. to T. W. Bramston, M.P. (Proserpine).

Second of 3 sovs. to S. B. Ruggles Brie, Finchingfield.

Best pure-bred Shorthorn Yearling Heifer.

First prize of 5 sovs. to John Claydon (Luxury).

Second of 2 sovs. to James Partee.

Commended.—James Upson, Rivenhall; Robert Baker, Writtle; and J. Richard Chaplin, Ridgewell.

Best fat Ox or Steer, not exceeding Three Years old.

The prize of five sovs. to T. W. Bramston, M.P.

Best fat Cow or Heifer.

First prize of 3 sovs. to James Upson (Shorthorn).

Second of 2 sovs. to James Barker, Ramsey.

Best Cow or Heifer for Dairy Purposes.

First prize of 3 sovs. to James Upson.

Second of 2 sovs. to Edward Halden, Halden (Shorthorn).

Best pure-bred Shorthorn Heifer, not exceeding Twelve Months, and not under six Months.

The prize of 2 sovs. to James Christy, jun.

Best pure-bred Shorthorn Bull, not exceeding Twelve Months, and not under six Months.

The prize of 2 sovs. to Joseph Root, Titchmarsh.

SPECIAL PRIZE OF 15 SOVS. (OPEN TO ALL ENGLAND).

Best Bull of any age of a pure breed.

The prize of 15 sovs. to James Webb, Babraham (May Duke).

SHEEP.

JUDGE.—R. Pope, Malden Newton, Great Toller, Dorset.

Best Southdown Ram of any age.

First prize of 5 sovs. to Oakley Savill Onley, Stisted.

Second of 2 sovs. to T. W. Bramston.

Best Ram of any other Short-wool breed.

First prize of 5 sovs. to Peter Portway, Great Sampford (Northfolk and Down).

Second of 2 sovs. to Peter Portway.

Best Long-wool Ram, of any age.

First prize of 5 sovs. to Wm. Parson, Boreas.

Second of 2 sovs. to John Hine, Epping.

Best Yearling Southdown Ram.

First prize of 5 sovs. to T. W. Bramston, M.P.

Second of 2 sovs.—Withheld.

Best Shearling Short-wool Ram, of any other breed.

No awards.

Best Shearling Long-wool Ram.

First prize of 5 sovs. to G. B. Ward, Great Bentley.

Second of 2 sovs.—Withheld.

Best pen of Five Shearling pure Down Ewes.

First prize of 5 sovs. to G. B. Ward.

Second of 2 sovs. to G. B. Ward.

Best pen of Five Ewes, of any kind, with their Lambs.

First prize of 5 sovs. to J. Gordon Mew.

Second of 2 sovs. to T. W. Bramston, M.P.

Best pen of Five Fat Shearling Long-wool Wethers.

No competition.

Best pen of Five fat Shearing Long-wool Wethers.
First prize of 3 sovs. to E. Q. Viall, Baythorn Hall.
Second of 2 sovs. to W. Thompson, jun., Thorpe.
SPECIAL PRIZE of 10 sovs. (open to all England) for the Best Ram of any age, of a pure breed, and the President's prize of 5 sovs., for the best Long-wooled Ram of any age, without restrictions as to clipping, to Mumford Section, Cockfield (Cotswold).

THE PRESIDENT'S PRIZE of 5 sovs. for the best Short-wooled Ram, of any age, without restrictions as to clipping, to Sir T. Barrett Lennard, Bart., Aveley (Southdown).

EXTRA STOCK.

Commended.—J. Gurdon Rebrow, for Five Shearing Down Ewes.

PIGS.

JUDGES.—E. Pope, Malden Newton.

The Best Boar.

First prize of 5 sovs. to Manfred Biddell (Suffolk).
Second of 2 sovs. to Alfred Tuck, Ingatstone (Berkshire).

Best Boar, not exceeding Twelve Months old.

First prize of 4 sovs. to E. A. Bridge, Halstead.

Second of 2 sovs. to John Claydon.

Best Sow in Pig.

First prize of 4 sovs. to Manfred Biddell (Suffolk).

Second of 2 sovs. to G. D. Badham.

Best Sow with her Pigs.

First prize of 4 sovs. to John Claydon (improved Essex), 7 pigs.

Second of 2 sovs. to Alfred Tuck (Berkshire), 8 pigs.

Best pen of Three Sow Pigs under Nine Months old.

First prize of 4 sovs. to Manfred Biddell (Suffolk).

Second of 2 sovs. to G. D. Badham.

EXTRA STOCK.

The prize of 1 sov. to B. Wenden, Great Bromley, for Sow and Ten Pigs.

Highly commended.—J. Cutts, of Little Bardfield Hall, for fat Hog.

WOOL.

JUDGES.—J. Cooke, Colchester.

S. Unwin, Colchester.

Best Ten Fleeces of Southdown Wool.

The prize of 2 sovs. to J. Gurdon Rebrow.

Highly commended.—G. B. Ward; T. W. Brampton, M.P.; and J. Oxley Parker, Woodham Mortimer Place.

Best Ten Fleeces of any other Short Wool.

The prize of 2 sovs. to Daniel Green, Berechurch.

Best Ten Fleeces of Half-bred Wool.

The prize of 2 sovs. to W. Thompson, jun., Thorpe.

PRIZES FOR IMPLEMENTS.

JUDGES.—H. B. Caldwell, Lackham House, Chippingham.

T. Hawkins, Bentley Hall, Ipswich.

The prize of 20 sovs. to Catchpool and Thompson, Colchester, for the best collection of implements.

The prize of 10 sovs. to B. Coleman, Chelmsford, for the second best collection of implements.

The prize of 5 sovs. to Wood and Son, Stowmarket, for the third best general collection of implements.

The prize of 10 sovs. to — Humphries, Pershore, for his adaptation of a new Smutter to his Combined Threshing Machine.

The prize of 5 sovs. to Robert Boby, Bury St. Edmund's (for the best improvement in any known implement) for his Corn Screen.

Highly commended.—B. H. Benthall, Heybridge, for Oilcake Mill.

Mr. BAILEY, of Mount-street, London, was the JUDGE of POULTRY.

THE DINNER

Took place at the Corn Exchange; the company numbering about 250. The chair was occupied by the President, T. Burch Western, Esq., of Felix Hall, supported by the Right Hon. William Beresford, M.P., Sir Claude C. de Crespigny, Bart., Sir C. C. Smith, Bart., the Mayor of Colchester (Arthur L. Laing, Esq.); Colonel H. K. Blomfield, Commandant of the Colchester Garrison; Charles Du Cane, Esq., M.P., T. W. Brampton, Esq., M.P.; J. W. Perry-Wallington, Esq., M.P., T. J. Miller, Esq., M.P., P. O. Papillon, Esq., M.P., T. Sutton Western, Esq., M.P., A. Stewart, Esq., the Rev. W. Y. Smythies, Lieut.-Colonel S. B. Ruggles Brix, Major Skinner, R.A., and Messrs. Charles Gray Round, C. T. Tower, W. M. Tufnell, J. Gordon-Rebow, Carleton Smythies, S. G. Cooke, W. Fisher Hobbs, J. Oxley Parker, R. S. Nunn, G. D. Badham, Jonas Webb, N. G. Barthropp, T. Crisp, John Claydon, T. J. Hallum, J. Christy, jun., W. A. Warwick, A. Garrad, Corbet, Professor Simonds, C. Sturgeon, J. Hutley, Eke, &c.

After the customary loyal and patriotic toasts, the CHAIRMAN gave "Success to the Society." In doing so, he said their exhibition was a very excellent one; and although the entries of stock were not so numerous as last year, yet the animals shown were generally of a very superior description; and he was told that in some respects it was even a better show than last year. The object of the association was the advancement of agriculture, and it might be suggested that beyond the two branches to which they had hitherto confined themselves they should include those other branches which were embraced by similar societies in neighbouring counties. Whatever might be the case in future, he thought the committee had shown a wise discretion in confining the Society in the first instance to its present limits. This county was differently situated to many others in having a large number of local associations, which directed their efforts to those other objects; and as long as they each followed their particular course, they might continue to act harmoniously together, and be a mutual aid and support to each other.

Mr. BRAMPTON, M.P., in proposing the health of the President, had much pleasure in congratulating them on the success which had attended this their second meeting, and he thought those gentlemen with whom originated the idea of having an Essex Agricultural Society had reason to be proud of the success which had attended their suggestion. He held it to be an anomaly for a county like Essex—one of the most important agricultural counties of England—to be without an Agricultural Society, while other counties (many of which did not possess a title of the agricultural character that Essex possessed) had this desideratum. Therefore, he held that to those who originated this Society the county was deeply indebted. He had experienced great pleasure in attending the meeting that day, and in witnessing the exhibition of stock. There were many fine animals which he delighted to see; but he was quite as much pleased to observe a number of bad animals as he was with the very fine exhibition of animal perfection. The great advantage of these meetings, he thought, was that they found a sort of competitive examination, where gentlemen who possess animals are compelled to acknowledge what the true merits of their animals are. Whether it be the bailiff or the squire—the small or the large farmer—the tenant or the landowner, a breeder is in the habit of looking at the animals he rears simply with regard to its own proportions and its pedigree, and then he thinks it to be unequalled in the world. Now such a person should be brought to understand the proper qualities of the animal he ought to breed; and therefore he held it to be a great advantage for meetings to be held, through the instrumentality of such societies as these, where bad animals could stand in contrast to the stock exhibited by the leviathans of agricultural breeding, such as Mr. Badham, Mr. Fisher Hobbs, and Mr. Jonas Webb. The defects that had become apparent by this trial induced the exhibitors of inferior stock to take the earliest opportunity of sending their animals to the shambles, and introducing better blood into their stock, so that on future occasions they might be able to produce animals which judges would be more likely to appreciate, and which would stand a better chance of obtaining prizes.

Mr. REBROW, in returning thanks for the vice-presidents, said that his friend Mr. Brampton had stated that it was an uneven exhibition of stock. In this he quite agreed, and he thought Mr. Brampton's observations might be attended with very great advantage. Every grower—whether it be of horses, bullocks, sheep, or cocks and hens—is apt to be conceited in hearing the crow of the animal in his own yard; but the great test is competitive examination. And in exhibitions of this nature they had the best test as to the qualities of various animals; and in meetings such as these they were able to ascertain the advantages and wants of agriculture. Now he hoped he should not be considered unwarrantably proud of his own locality when he stated that in his part of the county they need not bow their heads to anyone in regard to arable farming. He believed he might safely say that in that corner of Essex they grew the finest samples of corn, and they understood the growth of corn as well as the agriculturists of any other part of England. Within comparatively few years the laws of England had been changed in reference to the advantages of growing corn, and therefore more general attention has been called to another branch of agriculture, with a view to ascertain whether it is as profitable as the growth of corn.

It was from that cause that Essex farmers had turned their attention to the growth of stock more recently than the farmers of any other part of England. There was another reason. As Mr. Western had observed, the climate of this part of England is peculiarly suitable to the growth of corn, and not peculiarly suited to the growth of animals. Now it is, of course, known to every agriculturist that a dry climate must be advantageous to the growth of corn. Well, in the year 1858 the downfall of rain in this part of Essex was only 14 inches, while in the West and North of England it was between 60 and 70 inches. From this it must be apparent that this part of the country is better suited to the growth of corn than the growth of stock; and it was on that account that few persons in the eastern part of Essex had given their attention to the growth of stock. He referred more particularly to sheep, which require a large extent of grass cultivation. He believed he was within bounds when he said that within 20 miles of this town not half-a-dozen flocks were kept (cries of No, no). Well, he should be happy to be corrected; but, at all events, they had a smaller exhibition of sheep than shows in many other parts of the country would secure; but the show of stock taken as a whole was one which they need not be ashamed to exhibit in any part of the United Kingdom. There was one part of farm produce to which, perhaps, he gave more attention than to any other—namely, the growth of wool. He was happy to say that that day he had succeeded in gaining the first prize. As Mr. Sutton Western had stated, he was a successful exhibitor of wool at the Hyde Park exhibition in 1851; and he hoped to be successful at the Royal Society's meeting at Warwick a fortnight hence.

Mr. CORBET, on behalf of his brother Judges, had to thank the town of Colchester for a very hearty welcome, and a most agreeable day's work. Unhappily his authority did not extend to the magnificent qualities of their Suffolk horses, or the delicate touch of their shorthorn cattle; but in his own department he met with some excellent illustrations of that somewhat conventional term, a clever hack. He only hoped they would judge the judges and criticise the critics in the same way that they had dealt with the high-bred animals in the show-yard—

"Be to their faults a little blind;
Be to their virtues very kind;"

and, if possible, give them a "commendation."

Mr. UNWIN, as one of the Judges of Wool, also returned thanks. There were six competitors in the first class, all of them having some considerable degree of merit; and the second lot pressed so closely upon the heels of that which received the prize that his colleague and himself regretted that there was not a second prize to award. It was so beautifully got up; its condition, colour, and quality were so good; and it possessed so completely the qualities desired by wool-staplers, that they considered it entitled to their high commendation. An ordinary grasier could not be expected to compete with a gentleman like Mr. Rebow, who had the advantage of a large extent of grass land; but, by clipping at the precise stage of maturity, and closely attending to the necessary washing, a very great and general improvement might be effected. He must give Essex the credit of growing some of the best wool produced in the United Kingdom; yet, such was the careless manner in which it was got up, it by no means held its proper position in the manufacturing market. He did not mention it as matter of complaint, but as a point to which it was their own interest to pay more attention, since it would lead to more competition, and enable them to obtain better prices for their wools.

Mr. FISHER HOBBS could only say for the Committee that if they were successful in future years as at its first and second meetings, a long career of usefulness might be looked forward to by the Essex Agricultural Association. It had been for years past a question with many whether, in a purely agricultural county like Essex, they could establish a useful show of stock; but he thought their first meeting proved that, although they had not the same facilities as in some other parts of the kingdom, there was a spirit of determination on the part of the first class farmers of Essex to have good stock, knowing that it would pay better than bad, and that with that view they were also satisfied of the necessity of breeding their own animals. Mr. Rebow was much mistaken as to the extent of sheep grazing in this part of the county. Instead of the neigh-

bourhood of Colchester within twenty miles being unable to furnish more than six flocks of sheep, he should say that there were at least sixty flocks of pure-bred animals. Might this branch of agriculture increase and flourish amongst them; and as Essex had taken up a good position with regard to the cultivation of the soil, so he hoped they should, through the encouragement and stimulus afforded by this Society, take up almost as good a position as breeders and rearers of stock.

Mr. J. OXLEY PARKER, as one of the stewards, returned thanks on their behalf. Many gentlemen who "sit at home at ease" had but a small notion of the trouble that a meeting of this kind occasioned to the stewards. He believed that he might say that his kind co-operators—the friends who had acted with him—were glad to do what they had done, and that they felt they had been fully rewarded for their labours in the success of the meeting. He was not sure that they felt unbounded satisfaction at the result: on the contrary, he believed his brother stewards would gladly have seen a larger entry of stock. True, the stock exhibited was of good quality, but he wanted to see an increase in quantity as well as quality. Last year, at Chelmsford, the entries numbered one-third more than they did this year; whereas he expected that there would have been an increase to the extent of one-half. He regretted that the great breeder of stock in the neighbourhood of Colchester had not exhibited anything. He thought they would have been largely patronised by Mr. Fisher Hobbs on this occasion; and he could not help regretting that a sort of squeamish attention to an observation made with respect to the number of prizes which he gained last year at Chelmsford caused him to retire from the field. Why, if Mr. Hobbs were to carry off the first prize in every class, he (Mr. Parker) should be glad to see him do so, provided the animals were worthy of the distinction.

Mr. FISHER HOBBS said, that as he was requested to take an active part in the arrangements of this meeting, he considered that he should best serve the society by refraining from exhibiting, and therefore he preferred giving up his private interest to the public welfare.

Mr. G. D. BADHAM returned thanks for the "Successful Exhibitors." It was always his pride and pleasure to produce good animals, and was naturally gratified to meet with success. Essex was his native county, and wherever the society held its meeting he should always be happy to exhibit any animals he might have.

THE GLOBE: ITS NUMBER OF ACRES OF LAND AND WATER, AND POPULATION.

SIR.—Sir Isaac Newton the Great has told us that the earth is about 25,020 miles in circumference, and the diameter about 7,960 miles; if so, there are upon the surface 127,461,888,000 acres of land and water; and supposing one-third to be dry land, there would be 42,487,296,000 acres, and of water 84,974,592,000 acres; and estimating the population of the globe at 925,000,000 souls, there would be for each 45½ acres of dry land, and 91 acres of water to produce fish for food and to manure the dry land, and not the sea, like the sewage of London, which is antediluvian statesmanship—and common sense will soon end it or mend it, to keep pace with steam, gas, and the telegraph, which are only three steps towards a vast mountain of discoveries that have lain in a torpid state for nearly 6,000 years. But what can we expect from men whose minds are confined in the small space of a nutshell? Nay, where is the *Golden Calf* worshipped more than in England? The famous old adage says,

"He who pays more respect to wealth than sense,
Would worship idols to increase his pence."

The great philosopher Diogenes, who lived and lay in a tub, said "It was no use pumping water into a sieve; you could not carry it away. A man might be rich and not wise, and wise and not rich."

SAMUEL ARNSBY.

Blue Bell Inn, Peterborough, June 1st, 1859.

NORFOLK AGRICULTURAL SOCIETY.

MEETING AT SWAFFHAM.

On Wednesday, June 15, the Norfolk Society met at Swaffham, which shares the honour of accommodating the Association alternately with the ancient capital of the county. The weather was splendid—an unsullied sky, with just a cloud or two to keep the vast expanse of blue in countenance, putting all fears of rain out of the question; while the heat was tempered by a slight breeze, although verging at mid-day on sultriness. The consequence was that the special trains put on for the occasion were well freighted with passengers, comprising not merely the bronzed and ruddy farmer, but many of those who “in populous city pent” wished to pass a few hours in green fields, and draw on Nature’s abundant treasury for the health-giving pleasure which she rarely fails to afford. Assuredly the appearance of the country was extremely beautiful, and the morning’s journey was by no means an insignificant part of the pleasures of the day. Norfolk is not distinguished for very brilliant scenery; but her well cultivated fields, cosy homesteads, and leafy plantations glancing in the sunlight and bending in graceful obsequence to the breeze, are invested with interest to practical minds, although they do not figure much in guide-books.

The first impression supplied by the show-yard was that it was 1857 over again. Lord Leicester and Mr. Blomfield divided, as of old, the spoils for the Devons, and in the class of Devon cows the noble Lord had it all his own way, a circumstance which probably no one regrets more than himself. This lack of competition prevailed also with regard to Shorthorn in-calf heifers, of which Mr. S. Gooch was the only exhibitor. Mr. T. Paul was the solitary candidate for the prize offered for fat steers of any breed under three years old; while of yearling Shorthorn bulls, yearling Devon bulls, fat cows of any breed for milking purposes, and cows or heifers there were no entries. When it is added that the 65 animals exhibited were shown by 22 individuals, it will be seen how languid the spirit of competition has become in Norfolk, considering the extent of the county and the number of her able agriculturists. The reason probably is the admitted excellence of the stock entered by the well known noblemen and gentlemen who generally carry off the premiums, and against whom it is felt that it would be vain to compete—a supposition favoured by the fact that the 22 prizes were divided among ten candidates. Farmers generally display a good deal of sensitiveness as to the result of their competitive trials, and do not like to be set up merely to be bowled down like nine-pins. The consequence is that they are slow to move against established reputations; and there seems little doubt that until a system of temporary disqualification—say for one or two years—clears the course a little, the old hands will still make all the running.

The Shorthorns exhibited on the present occasion

were much admired, and the Devons presented the attractive characteristics of that beautiful breed; but still, the interest of the exhibition would be increased and the glory of a triumph would be enhanced—even the successful competitors must admit it—if the entries were more numerous and the competition more general. It does not either require much argument to establish the fact that the Association would still further than at present “take root downwards and bear fruit upwards.”

As with the cattle so with the sheep, only twenty competitors appearing in the thirteen classes. The Southdowns were contributed by four or five gentlemen, and the conclusion will be justly arrived at that they were first-rate, when the names of Lord Walsingham, the Earl of Leicester, Lord Sondes, and Mr. J. B. Aylmer, are mentioned. The Southdown rams of the first-mentioned nobleman attracted considerable notice, and there were also four excellent pens of Southdown ewes. The Leicesters were of great size, and their wool of almost fleecy whiteness glittered in the sun; while it is sufficient to recapitulate the names of Mr. Beale Browne, Mr. Hugh Aylmer, Mr. T. Brown, Mr. G. M. Sexton, and Mr. J. Overman, as guarantees of the general excellence attained in this breed. In the class of wether lambs of any breed there was the most active competition noticeable in this department of the exhibition as regards the number of competitors; and it will be seen that the entries of Mr. W. Groom carried off the palm.

Of horses there was about an average exhibition. Some of the cart-stallions indicated great strength and power, the Suffolk element being as usual worthily represented. Mr. N. G. Barthropp asserted the reputation which the neighbouring county bears in this department, bearing off the prize in each case for cart-fillies. Of thorough-bred stallions, entries were made by Mr. F. Barlow, Lord Suffield, Mr. A. Applewhaite, Mr. W. C. King, and Mr. J. L. Barrat. There were some eight or ten entries of hackneys, with regard to which complaints have been made that this class of horses was becoming extinct in the county, although it was once celebrated for them.

The show of pigs was also about an average, but only one boar of large breed was entered, while there were just four distinct competitors in the four classes—Mr. T. Crisp, Lady Pigot, Mr. G. M. Sexton, and Mr. J. Sewell. Mr. T. Crisp carried away, as the judges’ awards show, all the prizes.

The show of implements was smaller than usual. The entries made were confined almost, if not altogether, to the old-established houses, while only 111 entries came under the notice of the judges, a considerable proportion—one-third—not having been made within the time prescribed by the rules of the association. The observations made with regard to the limited entries of

stock do not, however, apply with equal force to the implement yard, as the stock, one would think, ought to constitute the speciality of a county show.

The makers who put in an appearance on Wednesday were Messrs. Garrett and Sons, Mr. R. S. Baker, Mr. Jesse Kemp, Mr. J. Baker, Mr. C. Burrell, Mr. W. M. Cranston, Mr. H. Cornish, Messrs. J. Woods and Sons, Messrs. Smith and Ashby, Messrs. Creak and Colby, Mr. E. H. Bontall, Messrs. Holmes and Sons, Mr. Howard Reed, Messrs. Clayton and Shuttleworth, Mr. J. Sainty, Messrs. Coleman and Sons, Messrs. Murton and Turner, Mr. W. Cambridge, Mr. A. Sparke, Mr. J. Campling, Messrs. Smyth and Sons, Mr. F. Savage, Messrs. Barnard, Bishop, and Barnards, and Messrs. Pickaley, Sims, and Co. Nearly all these firms, it will be observed, were connected with the immediate eastern district. Woods and Son, from Suffolk, had a capital selection of implements, to which the judges awarded the first and highest prizes. The article that attracted most attention was the new root pulper, improved and made from the original Phillips' patent. The implement appears now to be perfected, and is as cheap and simple as a Gardner's turnip cutter. There were few other novelties reported, but in this respect the portable iron fencing exhibited by Mr. J. Sainty, of Burnham, seemed to attract some notice. The merits of this fencing appeared to be lightness, and consequent easy portability, with readiness of adaptation to the varying size of fields. It would be useful of course in sheep folding. The price was stated at 15d. per yard for lengths exceeding 400 yards. Other improved or newly-invented implements, which elicited prizes, were a grass-mowing machine, a combined blowing and dressing machine, a jointed self-expanding chain harrow, and a two-horse reaping and mowing machine. Pulpers, slicers, lawn mowing machines (running on large balls acting as universal joints in all directions to ensure prompt turning round; a matter of importance in trimming edges and at the same time discriminating between grass and flowers), hummellers, drills, harrows, hoe, chaff-cutters, and the whole extensive family of agricultural machines were represented as usual. But the answer returned to our inquiry as to the readiness evinced to purchase was of a discouraging character.

There was a trial (although not for prizes) of mowing machines during the day in a field of white clover and rye-grass near the town. The clover was a good stout crop, and was laid low by the three machines brought to bear upon it—one, an American, worked as it was shipped. The clover appeared to be fairly cut, and not bruised and denuded of its succulent leaves, as some have complained has been the case in operations of this kind. It will be seen on reference to the dinner proceedings that the judges did not consider the action of the machines quite perfect, one treading on the grass after it was cut, and the other "locking" it, while (as Mr. Brown, the responding judge, added in his speech), it was not satisfactorily explained why a grass-mower could not be combined with a reaper. At the same time the judges marked their general approval of the machines by awarding silver medals.

PRIZES LIST.

CATTLE.

JUDGES.—William Ladds, Ellington, Kimbolton, Huntingdonshire.

J. Slippes, Tottonham.

SHORTHORN BULLS.

First prize of 7*l.*, and silver medal, to Lord Walsingham.

Second prize of 4*l.*, to Stephen Geoch.

YEARLING SHORTHORN BULLS.

No entry.

DEVON BULLS.

First prize of 7*l.*, and silver medal, to J. Blomfield.

Second of 4*l.*, to J. Blomfield.

YEARLING DEVON BULLS.

No entry.

POLLED BULLS.

First prize of 7*l.*, to Joseph Fulcher.

Second of 4*l.*, to T. M. Hudson.

YEARLING POLLED BULLS.

Prize of 3*l.*, to Lord Sondes.

SHORTHORN COWS, in-calf or in-milk.

First prize of 5*l.*, and silver medal, to Lord Walsingham.

Second of 3*l.*, to Lord Walsingham.

DEVON COWS, in-calf or in-milk.

First prize of 5*l.*, and silver medal, to the Earl of Leicester.

Second not awarded, there being only three animals exhibited. Lord Leicester's two other cows commended.

POLLED COWS, in-calf or in-milk.

First prize of 5*l.*, and silver medal, to J. Hamond.

Second of 3*l.*, to Lord Sondes.

Cows of any breed (not Shorthorn, Devon, or Polled), for milking purposes.

No entry.

SHORTHORN IN-CALF HEIFERS, bred by the exhibitor, and not above three years old.

First prize of 5*l.*, and silver medal, to Stephen Geoch.

Second of 3*l.*, not awarded, only two animals being exhibited.

YEARLING SHORTHORN HEIFERS.

Prize of 2*l.*, to Lady Pigot.

YEARLING IN-CALF HEIFERS.

First prize of 5*l.*, and silver medal, to J. Blomfield.

Second of 3*l.*, to the Earl of Leicester.

YEARLING DEVON HEIFERS.

Prize of 2*l.*, J. Blomfield.

J. Blomfield's other heifer commended.

POLLED IN-CALF HEIFERS.

First prize of 5*l.*, and silver medal, Lord Sondes.

Second of 3*l.*, Lord Sondes.

YEARLING POLLED HEIFERS.

Prize of 2*l.*, Lord Sondes.

Another of Lord Sondes' heifers highly commended.

FAT STEERS, of any breed, above three years old.

First prize of 5*l.*, and silver medal, T. M. Hudson.

The Rev. J. Holmes's commended.

No second prize awarded, only two animals being exhibited.

FAT STEERS, of any breed, under three years old.

First prize of 5*l.*, and silver medal, T. Paul.

Second not awarded, only one animal being exhibited.

FAT COWS OR HEIFERS.

No entry.

S H E E P.

SOUTHDOWNS.

JUDGES.—G. Brown, Avebury, Marlborough, Wiltshire.
W. Rigden, Hove, Brighton, Sussex.

SOUTHDOWN SHEARLING RAMS.

First prize of 7*l.*, and silver medal, Lord Walsingham.

Second of 5*l.*, J. B. Aylmer.

Third of 3*l.*, J. Overman.

Another of Lord Walsingham's rams commended.

SOUTHDOWN RAMS, of any age.

First prize of 6*l.*, and silver medal, Lord Walsingham.

Second of 4*l.*, Lord Walsingham.

Third of 2*l.*, Lord Walsingham.

J. B. Aylmer's ram highly commended.

SOUTHDOWN SHEARLING EWES.

First prize of 5*l.*, and silver medal, Lord Walsingham
Second of 3*l.*, Lord Walsingham.
J. Overman's and J. B. Aylmer's rams commended.

SOUTHDOWN EWE LAMBS.

First prize of 4*l.*, and silver medal, the Earl of Leicester.
Second of 3*l.*, Sir W. Jones.

SOUTHDOWN SHEARLING WETHERS.

First prize of 5*l.*, and silver medal, Lord Walsingham.
Second of 3*l.*, Lord Walsingham.
Lord Walsingham commended for a third entry.

SOUTHDOWN WETHER LAMBS, bred by the Exhibitor from a flock of not less than five score ewes.

First prize of 5*l.*, and silver medal, Lord Sondes.
Second not awarded, only two animals being exhibited; but the Earl of Leicester's lambs commended.

SOUTHDOWN SHEARLING EWES, not separated from their flock of ewe hoggetts earlier than the 1st of June, or clipped before that day.

First prize of 5*l.*, and silver medal, the Earl of Leicester.
Second of 4*l.*, Lord Sondes.
Third of 3*l.*, not awarded, an insufficient number of animals being exhibited; but Lord Sondes and the Earl of Leicester's ewes highly commended.

LONG WOOLS AND HALF-BREDS.

JUDGES.—F. Spencer, Claybrook.
W. Torr, Aylesby.

SHEARLING LEICESTER OR LONG WOOLLED RAMS.

First prize of 7*l.*, and silver medal, Hugh Aylmer.
Second of 5*l.*, Hugh Aylmer.
Third of 3*l.*, Hugh Aylmer.
T. Brown and Hugh Aylmer highly commended, each for two rams; and the Class generally commended.

LEICESTER OR LONG WOOLLED RAMS, of any age.

First prize of 6*l.* and silver medal, T. Brown.
Second of 4*l.*, T. Brown.
Third of 2*l.*, Hugh Aylmer.
Another of T. Brown's rams, highly commended; and Hugh Aylmer's and T. Brown's (fourth), commended.

SHEARLING LEICESTER OR LONG-WOOLLED EWES.

First prize of 5*l.* and silver medal, Hugh Aylmer.
Second of 3*l.*, Hugh Aylmer.

WETHER LAMBS, of any breed.

First prize of 5*l.* and silver medal, W. Groom.
Second of 3*l.*, W. Groom.
L. Barrat commended.

SHEARLING WETHERS, of any breed (except Southdown).

First prize of 5*l.* and silver medal, J. Overman.
Second of 3*l.*, J. Overman.
J. Overman commended for a third entry.

EWES, of any age or breed from a flock of not less than 5 score, having brought up a lamb or lambs to within three weeks of the day of exhibition.

Prize of 5*l.* and silver medal, the Earl of Leicester.
Lord Sondes commended.

HORSES.

JUDGES.—George Gayford, Lackford, Suffolk.

Thomas Percival, Wausford, Stamford, Lincolnshire.

CART STALLIONS, not under four years old, having covered at least 30 mares during the present season.

First prize of 10*l.*, T. Crisp.
Second of 7*l.*, H. Overman.
Third of 5*l.*, T. W. Read.

THREE-YEARS-OLD CART STALLIONS, having covered at least 15 mares during the present season.

First prize of 8*l.*, T. Crisp.
Second of 4*l.*, B. Pond.

TWO-YEARS-OLD CART STALLIONS.

First prize of 6*l.* and silver medal, T. Crisp.
Second of 3*l.*, T. Wright.

CART STALLIONS.

The Swaffham cup for the best cart Stallion in the yard, having covered at least 30 mares in Norfolk during the present season, to T. Crisp.

THOROUGHBRED STALLIONS, used for breeding purposes during the present season.

Prize of £7, to Lord Suffield.

STALLIONS for saddle or harness.

First prize of £7, to Lord Suffield.

Second of £4, to J. Warman.
F. Gardner commended.

HACKNEY MARES or **GELDINGS**, above five years old, above 14 hands, and not exceeding 15½ hands, high.

First prize of £10, and silver medal, to T. Brown.
Second of £5, to M. Cooper.

MARES and **GELDINGS**, for saddle or harness, under five years old.

First prize of £5, and silver medal, to F. Gardner.
Second of £2, to Joseph Fulcher.

THREE-YEARS-OLD MARES or **GELDINGS**, for hunting purposes.

Prize of £5, and silver medal, to Capt. Marcon.

BROOD MARES, for saddle or harness, certified to have produced a living foal within twelve months immediately preceding the day of exhibition.

Prize of £5, to W. R. Freeman.

CART MARES.

First prize of £7, to Rev. J. Holmes.

Second of £5, to G. Wood.

Third not awarded, only four animals being exhibited.
T. Crisp commended.

THREE-YEARS-OLD CART FILLIES.

First prize of £6, and silver medal, to N. G. Barthropp.

Second of £3, to H. Overman.

J. Overman commended.

TWO-YEARS-OLD CART FILLIES.

First prize of £5, and silver medal, to N. G. Barthropp.

Second of £2, to R. Smith.

CART FOALS.

First prize of £4, and silver medal, to T. Crisp.

Second of £2, to H. Overman.

PONIES, not under 12 nor above 14 hands high.

Prize of £5, to F. E. Beck.

T. Crisp and W. R. Freeman commended for ponies.

SWINE.

JUDGES.—F. Spencer, Claybrook Magna, Lutterworth, Leicestershire.

W. Torr, Aylesby Manor, Grimaby, Lincolnshire.

BOARS of large breed.

First prize of £4, to T. Crisp.

Second not awarded, only one animal being exhibited.

BREEDING SOWS of large breed.

First prize of £4, to T. Crisp.

Second not awarded, only two animals being exhibited.

BOARS of small breed.

First prize of £4, and silver medal, to T. Crisp.

Second of £2, to G. M. Sexton.

T. Crisp commended.

BREEDING SOWS of small breed.

First prize of £4, and silver medal, to G. M. Sexton.

Second of £2, to T. Crisp.

G. M. Sexton also commended.

STORE PIGS (best pen of eight, of the same litter, and not exceeding four months old).

No entries.

IMPLEMENTS.

JUDGES.—T. Brown, Marham, Norfolk.

J. Fergusson, Wretham, Norfolk.

COLLECTIONS OF AGRICULTURAL IMPLEMENTS.

First prize of £6, to J. Woods and Sons, Stowmarket, Suffolk.

Second of £4, to Garrett and Sons, Leiston, Suffolk.

Third of £2, to Howard Reed, Lynn, Norfolk.

CHAFF-SIFTERS (which, in the opinion of the judges, will most speedily and effectually free corn-chaff from straw and dust).

Prize of £5, to Holmes and Sons, Norwich.

Silver medals were given to the following exhibitors of

newly-invented or improved implements which the judges desired to mark with their approval:—

James Kemp, of Thurbury, Lincolnshire, for a grass-mowing machine.

John Baker, of Wimbach, for a combined blowing and dressing machine.

Wm. C. Cambridge, of Bristol, for a jointed self-expanding chain harrow.

Howard Reed, of Lynn, Norfolk, for a two-horse reaping and mowing machine.

The judges highly commended the scarifiers exhibited by Coleman and Son, of Chelmsford, and the portable iron fencing exhibited by John Sainty, of Burnham; and also commended the general collection of implements exhibited by E. H. Bentall, of Heybridge, Essex.

THE DINNER.

A party of about 120 dined together in the afternoon, at the Assembly Rooms. The chair was occupied by the Marquis of Lothian, president for the year, and his lordship was well backed up by the county élite—the Earl of Leicester (Lord Lieutenant), Lord Stafford, Lord Sondes, the Earl of Albemarle, Lord Suffield, Lord Hastings; Mr. G. W. P. Bentinck, M.P., Mr. Brampton Gordon, M.P., and Lieut.-Colonel Coke, M.P. The general company included the Hon. and Rev. Mr. Harbord, Mr. W. Burroughs, Mr. A. Hamond, jun., H. W. Keary, Mr. J. Hudson, Mr. A. B. Tretsew, Mr. J. Everitt, Mr. S. Abbott, and most of the leading farmers of the district.

The EARL of LEICESTER, in responding for the Lord Lieutenant, said it was some years since he attended the annual meeting of the society. He could not say that he saw any marked difference in the character and quality of the stock shown, but the exhibition was most creditable to the county. The noble lord then referred to the rifle corps topic, arguing that it was neither necessary nor desirable that agricultural labourers should be taken away from their ordinary avocations, as the defence of the country must rest with that great middle class which had hitherto been the prop and support of England.

LORD SONDES proposed "Success to the Royal Agricultural Society of England." In doing so he referred to this Swaffham Show, which, as far as his own opinion went, he thought it was very creditable to the county. When he first came to live in Norfolk, he had some Norfolk sheep in his flock, and also some Norfolk home-bred cows, and he remembered very well the late Earl of Leicester (Mr. Coke) doing him the honour to visit him at Elmham, and saying, "Change as little as you possibly can; get rid of the Norfolk sheep, but stick to your home-bred cows." He (Lord Sondes) was happy, notwithstanding the knock-down blow they got last year, to see so many exhibited that day; they were not so fashionable as the Devons and many other cattle, but he believed they were as profitable and useful cows as could possibly be kept, and his great pleasure was to keep up the breed.

Mr. HUDSON, in responding to the toast, said he trusted the Royal Society had been doing some good during the period to which the noble lord had referred. He looked upon the Holkham sheep-shearings as the ground-work of the Royal Society. Mr. Coke took in hand to carry out what the 4,000 members of the Society were now endeavouring to accomplish. Holkham thirty or forty years ago gave prizes to a large extent for the best cultivation and the best breed of sheep that could be produced. The noble lord had stated that Mr. Coke wished him to get rid of the Norfolk sheep, and he (Mr. Hudson) did not wonder at it. We had now a breed of sheep which could be brought to market in a year and a-half, whereas it took three years and sometimes four to bring those sheep to maturity. A very large meeting was now about to be held at Warwick, and he hoped his friends would not only be amused but instructed by what they might see there. He had no doubt they would see some of the finest animals which England could produce, and also many from Scotland. The entries were very large, and the show of implements would also exhibit an increase. At the first meetings of the Society the show of implements was not greater than that which they had witnessed during the day. The Society had, however, offered large prizes for the best implements which could be brought to bear upon the tillage and cultivation of the soil, and he hoped they had been brought out to the satisfaction and benefit of the tenant farmers of England.

Lord SUFFIELD proposed the "Yeomanry of Norfolk."

Mr. J. EVERITT replied, and alluded in feeling terms to the loss which the society had sustained in the late Mr. Richard England and Mr. Henry Overman.

Mr. SLIPPER, of Tottenham, in answer for the "Judges of Stock," said, the first lot of cattle to which their attention was called were the shorthorn bulls, and in that class they found some very meritorious animals. The bull to which they gave the first prize was, if not quite a first-class animal, very nearly approaching to it. He did not think the shorthorn cows were so good this year as when he had the pleasure of being a judge two years ago; but, as they had the bulls in the county, it would be easy to buy a few cows, and he was sure they could go on and improve that class of their stock. They then came to the Devons; and it was somewhat strange that this class of animals should have been removed from their native climate and soil and transplanted into Norfolk, where they had been bred and fed so as even to beat the animals bred and fed in their native county. They had to thank the late Lord Leicester for having introduced this breed of cattle into the county, and certainly a more beautiful class of animals could not be shown. It was true that they were not very large, but at the Baker-street show nine was not so much taken into consideration, and although perhaps animals were shown double their weight, these very pretty and beautiful cattle took the prize from them. They next came to a certainly very pretty and useful class of stock, called the Norfolk polled cattle. These cattle he could perceive, although divested of the horns, had had other blood thrown into them most judiciously. It might be remarked, perhaps, after the judges had gone over and awarded the prizes, that there were polled cattle with a peculiar dark hair about them. That, he believed, was not the natural hair of the Norfolk polled cattle; and in his opinion there had been some Scotch blood thrown into them. Now if some Scotch blood had been thrown into the breed, and if with that blood they had produced horns, of what consequence would that be if the breed had been improved by the crossing? He thought all breeds should be kept as pure as possible, but he did not consider that all farmers could breed pure-blooded animals at a profit. One breed should be crossed with another, and by this means a more profitable animal could be produced, to feed either on grass, turnips, or cake, than by merely sticking to pure blood. If they went into Scotland—and it was a well known fact that Scotchmen generally ranked among clever men—it would be found that the farmers there fed animals of all classes. It was a matter of no importance to a Scotchman whether his bullock was a red one or a black one, a white one or a green one, if he could get it—whether it had horns, or whether it had not. To show a fallacy attaching to horned cattle. They had thousands of black cattle brought from Ireland with horns; they might be Welsh, they might be horned Scots, or they might be a nondescript breed; but at all events they were divested of the horn when young, and hundreds of them were brought into Norfolk, and sold for Scots. Therefore it was no matter whether their cattle were horned cattle or polled cattle; but so long as they could get a description of animals which they could feed at a profit, that was the breed to stick to. He believed they had all the raw material in Norfolk, and plenty of talent to turn it to good account. They should scarcely depend upon people who lived in distant counties for the supply of store cattle, and he thought they should guard against that cattle being short, and bring up a portion of their own cattle upon their own farms. He should have much pleasure at the next meeting, if the society would accept it, in giving a prize of £5 for three of the best calves, not more than six months old: they might be horned ones, or polled ones, or any other breed, so long as they were the right sort.

For "The Judges of Southdown Sheep," Mr. RIGDEN said it was now seven years since he had the honour of attending the Society's meetings as a judge of stock, and since that time he had seen a marked improvement in the Southdown sheep; but he should be saying too much if he were not to add that there was plenty of room left for further improvement still. The class of shearing rams he did not consider so good as he expected to have seen them: the older sheep were certainly better, and the shearing ewes were also a good class. The greatest credit was due to the breeders of four score of shearing ewes shown in scores.

Mr. T. BROWN, for "The Judges of Implements," said his colleague and himself were exceedingly sorry that they had not been able to inspect all the implements. There were 170 entered, but from some inadvertence only 111 came under inspection, or scarcely two-thirds. As judges they had to award the prizes to the best collections they saw, and some latitude must therefore be allowed for their decisions. They were sorry that only one chaff-sifter was exhibited; they did not consider that implement perfect, but they felt bound to award it the

prize because they thought it was a step in the right direction, and might induce other makers to turn their attention to the subject, so that by-and-by they might get a perfect one. To the grass-mowing machines the judges had given medals, but they did not consider them quite perfect. They cut the grass uncommonly well, but one of them trod the grass after it was cut, and the other locked it. The judges also could get no answer to their questions why the grass-mower could not be combined with the reaping-machine, and so be of less expense.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A WEEKLY COUNCIL was held on Wednesday, May 25. Present, Sir J. V. B. Johnstone, Bart., M.P., Vice-President, in the chair; Count de Wesele, the Hon. Leslie Melville, Mr. Badham, Mr. Beale Brown, the Rev. Archer Clive, Mr. Corbet, Mr. Fawcett, Mr. Brandreth Gibbs, Mr. O. Hall, Mr. Fisher Hobbs, Mr. Majendie, Mr. Moore, Mr. Nesbit, Mr. Severn, Mr. Simpson, Mr. Slaney, M.P., Mr. Spooner, and Mr. Burch Western.

The names of candidates for election were read.

Mr. Fisher Hobbs, in accordance with the arrangement made at the last Council, favoured the meeting with the following statement of his practical experience in preventing the ravages of the Turnip-fly:—

"Having been requested at the last meeting of the Society to introduce to the notice of the members my experience of, and mode of treatment for, preventing the ravages of the Turnip-fly, I readily consented to do so; with, however, the understanding that what I had to say should be given more in a conversational form than as a paper especially prepared for the occasion. I was induced the more to respond to this invitation in the hope that it might act as something of an example for other members, and that the Weekly Council Meetings of the Society might become of some interest and service to us all, by affording the time and place for talking over subjects of passing importance to agriculturists generally. In introducing this subject I wish you particularly to understand that I have no new theory to expound, but merely to impress the result of my practice and the policy of carrying out certain principles which have long been known and admitted, but, I fear, not sufficiently observed. My remarks on the cultivation I should here state are intended to apply more to the Swede Turnip than to any other varieties which are generally grown after green crops, but the great work of destruction by the fly is applicable alike to both. As 'prevention is better than cure,' I shall commence with the preparation of the land, assuming that this has been thoroughly under-drained wherever requisite. 1st. I consider that autumnal cultivation is essentially necessary; first, by broadsharing for the destruction of weeds and insects, as well as for the aeration of the soil. 2nd. That deep ploughing should follow, and subsoiling if required, and it is frequently my practice during the early part of winter to carry on to the land intended for a root crop the unfermented manure direct from the yards or sheds, and at once plough it in, and not a particle must be suffered to be seen on the surface; this I believe to be important; for if not attended to, the undecayed portion of the manure becomes a receptacle, and subsequently a nursery for insects. 3rd. That at the commencement of spring it is most desirable, as soon as the state of the land will permit, to apply the harrows and roll, especially the former. I believe that more good may be done towards the destruction of insects of various kinds at that period than at any other throughout the year. Afterwards scarify, harrow, and roll until the land is in a pulverised state, and for a fortnight or three weeks before the time for drilling let the land remain like a seed-bed, so as to attract moisture, to allow vegetation for the seeds of weeds and for insects to deposit their larvae; this is frequently termed 'purging' the land. I need not refer to the common mode of applying the fermented or partly rotted farm-yard manure for the Turnip crop, except to state that it ought at once to be ploughed in, and the seed deposited immediately. 4th. That at the time of drilling the seed it is best for the land to be ploughed

(but some prefer scarifying only), and the seed to be immediately deposited. This is so important that I have frequently known total failures from the neglect of so doing. There is another point which I would strongly recommend, that is, in dry and sunny weather to plough and sow early in the morning, and late in the afternoon, but never during the heat of the day. I know an instance where the most signal success has for several years attended this mode of operation, and where the manager has never failed to secure a plant, although he is one of the old school, and still sows the seed broadcast with his own hand. This can be confirmed by several large farmers in the neighbourhood, who, strange to say, notwithstanding the example thus placed before them, continue to incur an amount of loss from having to sow two or three times, simply from the obstinacy and prejudice with which they continue to adhere to the customary working hours for their horses and men. 5th. That at the time of depositing the seed it is my invariable practice to use some description of artificial manure, generally superphosphate of lime, and I likewise add about thirty bushels of ashes per acre, made from hedge trimmings, weeds, &c., collected upon the land at different periods throughout the year. The roller may now be used with great advantage, before, and sometimes after the drilling. In dry weather I strongly recommend the application of the liquid manure drill. 6th. That before or immediately the young plants appear, the horse-hoe should be resorted to for the purpose of destroying the ova or larvae of the insects to prevent their coming to maturity. When once the plant is well up the roller may sometimes be applied with much benefit, as it tends still further to disturb the insect tribe, as well as to retain moisture for the young plant, and to consolidate the farm-yard manure where lately applied. At this period the plant requires frequent watching throughout the day, and if the enemy shows itself in any force, set to work as quickly as possible to accomplish its annihilation. Having described to you briefly my mode of prevention, I will now proceed to give you the cure, which is simply by the application of one or more 'top-dressings.' I have tried various experiments, steeping the seed, and top-dressings for upwards of thirty years; but though sometimes successful I could not depend on any of them until I adopted my present system, and I think it only fair that I should state that I derived the chief features as to the use of this top-dressing from my late bailiff Mr. O. Hawkins, who came to me some nine years since with an especial recommendation on this point; in fact, he himself engaged to secure the Turnip plant from the ravages of the fly, adding that he was willing to give up his situation immediately if he could not do so. I can only add that for eight years, during the whole time he was with me, he fulfilled all he promised in this respect. The following is Mr. Hawkins's recipe for a top-dressing:—1 bushel of white gas-ashes fresh from the gas-house; 1 bushel of fresh lime from the kiln, 6 lbs. of sulphur, and 10 lbs. of soot, well mixed together, and got to as fine a powder as possible, so that it may adhere to the young plant. The above is sufficient for 2 acres when drilled at 27 inches. It should be applied very early in the morning, when the dew is on the leaf—a broadcast machine being the most expeditious mode of distributing it, or it may be sprinkled with the hand carefully over the rows. If the fly continues troublesome, the process should be repeated: by this means 200 to 220 acres of Turnips, Swedes, and Rape have been grown on my farms annually for eight or nine years without a rod of ground losing plants. The above is a strong dressing, to be used when the

fly is very numerous, and has never failed when applied at night. Numerous experiments have been tried, and amongst them I recommend the following in ordinary cases, and intend to use it during the present season if necessary:—14lbs. of sulphur, 1 bushel of fresh lime, and 2 bushels of road scrapings per acre, mixed together for a few days before it is used, and applied at night, either by means of a small drill, or strewed along the rows by hand. I have known sulphur mixed with water applied in a liquid state by means of water-carts during the night, and the horse-hoe immediately following the water cart. This has succeeded admirably. In consequence of the dryness of the climate in my neighbourhood (the rainfall being on the average only about 16 inches annually) I usually sow on the flat; but the dressings above-named are equally applicable to crops sown on the ridge. I would strongly impress the necessity of frequently applying the horse-hoe. It is not my intention to enter upon the subject of the history, habits, and transformations of the various insects that infest the Turnip crop, but I would rather refer you to Curtis's excellent treatises on the subject, which appear in our journals. I think that these papers might be reprinted with great advantage in a cheap form, in something of the same style of pamphlet as Mr. Miles's Essay on Horse-hoeing. I am quite sure there is no subject of which the farmer has so little scientific knowledge as entomology, nor is there one that has had less attention paid to it by the Society. In offering these rough notes to your notice I am fully aware of the little information I have given, and I wish you to understand that I feel I have only acted up to the principle which I have always endeavoured to observe in the course of my agricultural career. I have ever been anxious to impart information as well as to acquire it. I have no secrets to keep, and in my opinion there ought to be none in farming. The system I here recommend is founded upon my own practice and experience, and for many years I have proved and can answer for its efficacy. I am induced from these results to conclude that by care and attention the Turnip plant may be as effectually and as certainly freed from the ravages of the fly as seed wheat has been for upwards of the last 20 years from smut and other destructive fungi."

Mr. NESBIT, in reply to a question from the Chairman, stated that the paper read by Mr. Fisher Hobbs was calculated to be of great benefit to the farmer. Mr. Hobbs's experience extended over a period of nine years; and whilst using the substances mentioned, in the manner indicated, he had not lost one rod of turnips. It was evident that the most important ingredient in these mixtures was sulphur. In the "gas ashes," or rather "gas lime," sulphur was found in considerable quantity. Gas lime was produced by using lime, in proper receivers, for the purpose of absorbing sulphur from gas. When applied in quantity to land, in its original state, it destroyed all vegetation. When mixed with earth, and turned over for a twelvemonth, it became more mild, and might be used with safety. The quantity mentioned by Mr. Fisher Hobbs could not possibly do any harm; and as its application had been successful for some years, he would not himself recommend any considerable alteration in the quantity to be applied per acre. The use of soot, he thought, was decidedly right. In the case of using sulphur with lime, their union, if properly effected, by slaking the lime and making the mixture moist, would give a compound of lime and sulphur somewhat analogous to gas lime, and possessed of similar properties. This mixture might, of course, be made in any locality where gas lime could not be obtained; but near most towns the gas lime might be had for the trouble of fetching it. Dry dust added to the compound would render it capable of being sown; and the presence of the former on the leaves would present a mechanical difficulty to the ravages of the fly. Sulphur unassociated with an alkali or an alkaline earth, such as lime, though it might be to some extent advantageous, would require to be used to such an amount as to entail an unnecessary expense. The experience of Mr. Hobbs was very interesting in a scientific point of view, as it gave an increased importance to some previously well-known facts—as, the oidium, or grape disease, had yielded to the action of alkaline sulphurets; and on the hop-plant, sulphur had been found beneficial both in the case of the mould and the fly. The working of the soil at night or

morning, when the dew was on the ground, he thought was worthy of the serious attention of the farmer.

The Hon. LESLIE MELVILLE said that, on his dry and shallow soil, he had found by experience that late ploughing should be avoided. His attention had first been drawn to this fact in the Essay in the Society's Journal; and he had found it borne out in practice that no ploughing should be done later than March, and all subsequent preparation should be by scarifying, &c. He had also found (by experiment) that both turnips and potatoes answered best on such soils as his own, when the drills ran north and south, as the plants partially shade each other during the intense heat of the day. He also named that he had found a composition manufactured by "Price's Candle Company" most effective against the green fly and red spider in his green-houses.

Mr. SPOONER, of Southampton, had made experiments last year by measuring out three plots of his turnip crop, to which he applied the following dressing: First, sulphur; second, lime; third, soot. From the sulphur he found no effects; from the lime a little benefit; and from the soot the most. With reference to the gas lime he believed that the smell might be greatly instrumental in keeping the fly away, as that insect possesses the sense of smell in a high degree.

Mr. NESBIT, in answer to a question put to him, stated that he was of opinion that the action of sulphur by itself would be but little, and unless in considerable quantities almost inert. He believed almost the secret of the success to be that the lime rendered the sulphur soluble.

Mr. BADHAM stated that he had found rolling young turnips to be very beneficial.

Mr. SLANEY, M.P., inquired of Mr. Hobbs whether he considered that sand would answer as well as road-scrappings—because the latter in many districts could not be obtained.

Mr. HOBBS replied, that in his opinion any sharp grit would answer the purpose, because he had observed that after heavy rain had caused any grit to adhere to the young plants, they had generally escaped the ravages of the fly. He would impress upon all who wished to try experiments the necessity of applying the dressing by night when the leaves of the young plant are wet with dew and when the insects are on the surface feeding.

The thanks of the meeting were voted to Mr. Fisher Hobbs for his interesting communication. A letter from Mr. Smith as to Steam Cultivation was referred to the Implement Committee. A letter from Miss Banister was read, and a specimen of the growth of *Dactylis glomerata* (Cock's-foot Grass) was laid on the table.

A SPECIAL COUNCIL was held, by order of the President, on Friday, May 27th, 1859: present, Lord Walsingham, in the chair; Lord Feversham, Lord Tredgar, the Hon. Col. Hood, Sir W. W. Wynn, Bart., M.P., Sir J. V. B. Johnstone, Bart., M.P., Mr. Amos, Mr. Raymond Barker, Mr. Brandreth, Col. Challoner, Mr. Brandreth Gibbs, Mr. Fisher Hobbs, Mr. Wren Hoskyns, Mr. Jonas, Mr. Kinder, Mr. Milward, Col. Towneley, Mr. Jonas Webb, and Mr. Western.

The Report of the Finance Committee was read.

A communication having been made by the Council to Mr. Hudson, the Secretary, and his reply having been received, it was unanimously resolved—

On the motion of Mr. Milward, seconded by Lord Feversham, "That Mr. Hudson be suspended from the office of Secretary from this time."

On the motion of the Hon. Colonel Hood, seconded by Mr. Jonas, "That Mr. Brandreth Gibbs be requested to accept the office of Honorary Acting Secretary *pro tem*."

On the motion of the Hon. Colonel Hood, seconded by Lord Feversham, "That all letters be addressed to Mr. Brandreth Gibbs, as Honorary Secretary to the Society."

On the motion of the Hon. Colonel Hood, seconded

by Mr. Jonas, "That these resolutions be made known to the public journals in the usual manner."

The Council came to other resolutions relative to the details rendered necessary for carrying into effect the above decisions, and gave orders accordingly.

MONTHLY COUNCIL: Wednesday, June 1, present, LORD PORTMAN, Trustee, in the Chair; Earl Powis, Lord Walsingham, Lord Camoys, Lord Bridport, Lord Feversham, Lord Leigh, Lord Tredegar, Sir J. V. B. Johnstone, Bart., M.P., Mr. Raymond Barker, Mr. Bramston, M.P., Colonel Challoner, Mr. Exall, Mr. Brandreth Gibbs, Mr. Fisher Hobbs, Mr. Chandos, Mr. Hoskyns, Mr. Lawrence, Mr. Milward, Professor Simonds, Mr. Slaney, M.P., Mr. Thompson, Professor Voelcker, Mr. Jonas Webb, and Mr. Burch Western.

The following new Members were elected:

Alexander, George M., The Woodlands, Stroud.
 Barnes, George, Knowle Farm, Wimbome.
 Beresford, Charles, Elton, Sandbach.
 Booth, John, The Wall, Andley, Newcastle-under-Lyne.
 Coleman, John, Longlands Farm, Holkham, Norfolk.
 Coleman, Walter, Kingsbury Hall, Tamworth.
 Coxon, John, Freeford Farm, Lichfield.
 Dowding, John, Lay Court, Westbury-on-Severn.
 Ellis, Job, Oswestry.
 Fletcher, Alexander, Red House, Southampton.
 Ford, George Ingram, Abbeyfield, Sandbach.
 Hewer, John E., jun., Vern House, Hereford.
 Horne, George, Brewery, Egham.
 Hurrell, William, Newton, Cambridgeshire.
 Jackson, Peter Rothwell, Blackbrook, Gresmont, Hertford.
 Jones, Richard, Town House, Bartombly, Crewe.
 Kensington, Edward, Dartmouth.
 Kingsby, Thomas, Boarcroft, Tring.
 Latham, George William, Bradwell Hall, Sandbach.
 Lewes, S., Audley, Newcastle-under-Lyne.
 Lewis, G., Audley, Newcastle-under-Lyne.
 Maddox, John, Harley, Much Wenlock.
 Malcolm, John, 7, Great Stanhope-street, May Fair.
 Marria, Thomas, The Chase House, Ulceby, Lincolnshire.
 Massey, Samuel, Lawton Arms, Lawton, Cheshire.
 Morgan, John, Market Square, Shrewsbury.
 Newsome, William, 30, Milverton Crescent, Leamington.
 Nichols, Lambert, Tenbury.
 Nichols, —, Durant's Arbour, Enfield.
 Robinson, Thomas, Withem, Alford.
 Scott, Henry, 17, Adam-street, Strand.
 Semple, Edward.
 Thornhill, Obadiah, Bartombly, Crewe.
 Vever, Charles, Irvington Park, Leominster.
 Wallis, George, Henton Walldridge, Farlington.
 Warwick, Earl of, Warwick Castle.
 Wilbraham, Randle, jun., Rode Heath, Lawton, Cheshire.
 Wilson, William, Bulcote, Nottingham.
 Wood, George, Graham's Town, Cape of Good Hope.
 Woolley, John, Sandbach.
 Wooster, James, The Wrestlers, near Elstree, Herts.
 Wright, S. W., Grendon House, Castle Ashby.

FINANCES.—Mr. Raymond Barker, Chairman of the Finance Committee, presented the monthly report on the accounts, from which it appeared that the current cash balance in the hands of the bankers was £1,759 4s. 11d. On the motion of Mr. Thompson, seconded by Col. Challoner, a special committee was appointed to examine the past accounts, and to make certain reports thereon to a special meeting of the Council to be summoned.

AGRICULTURAL CHEMISTRY.—Mr. Wren Hoskyns, Chairman of the Chemical Committee, reported that Professor Voelcker had analyzed a specimen of Mangel that had been stored two years, and that the Professor will be prepared at an early meeting of the Council to make some remarks upon the analysis he has made, with the object of turning attention to the general question of the causes (manurial and otherwise) exercising

influence upon the important subject of the storing qualities of root crops generally.

WARWICK MEETING.—Lord Leigh, Vice-Chairman of the General Warwick Committee, reported the recommendations of the Committee in reference to—1st, the Hon. Director of the Show being empowered to order shedding, hurdles, &c., according to the number of entries (which close this day, June 1st), also as to arrangements with the Local Committee at Warwick, for hay, straw, and the yardmen and assistants required; 2nd, as to the lodgings to be provided for the Judges of the Show; 3rd, as to the printing of the Award of Prizes; 4th, the arrangement of the Programme of the Meeting; 5th, the application to be made to her Majesty's principal Secretary of State for the Home Department for the usual number of Metropolitan police; and other matters of detail connected with the Meeting.

SPECIAL COUNCIL FOR APPOINTMENT OF JUDGES.—The President was requested to summon a Special Council for 10 o'clock on June 22, for receiving the report of the Special Committee on Accounts, and of the Judges Committee, and appointing the judges for the several departments of live stock, implements, and also for cheese and wool at the Warwick Meeting.

STEWARDS-ELECT OF IMPLEMENTS.—On the motion of Colonel Challoner, the Right Hon. Lord Leigh was unanimously appointed Steward-Elect of Implements.

The Council gave authority to the House Committee as to carrying out the details of matters intrusted to them.

At a weekly Council held on Wednesday, June 8th—present the Right Hon. Lord Berners, Trustee, in the chair; Lord Portman, Sir J. V. Shelley, Bart., M.P., Sir E. Kerrison, Bart., M.P., the Hon. W. G. Cavendish, M.P., Mr. Hodgson Barrow, M.P., Mr. Caldwell, Col. Challoner, Mr. Brandreth Gibbs, Mr. Fisher Hobbs, Mr. Humberston, M.P., Mr. Manning, Professor Simonds, Mr. Slaney, M.P., Mr. Thompson, of Kirby Hall, and Mr. Burch Western—

The names of candidates for election were read.

A letter from Mr. R. Wainwright was read relative to a compound that he stated he had discovered to be unusually fertilising. The Council expressed their willingness to receive any further particulars he might wish to communicate.

Mr. H. Smythies, of Auckland, New Zealand, addressed an inquiry to the Council as to whether they were in possession of any remedy (poisonous or otherwise) against a small caterpillar, which he stated passes over the face of the country in swarms during hot dry summers, and devours all vegetation.

A communication from Mr. Greenwood, of Abermant, Brecon, was read relative to an insect that had destroyed his mangel-wurzel crop. This insect is not seen during the day-time, and the specimens which were placed on the table had been collected very early in the morning. Lord Berners stated that his bailiff had found the mangel plant on his lordship's estate eaten all over when about an inch high by a similar insect.

Professor Simonds stated that his mangel plants had been attacked by an underground grub. The Council directed the insects to be forwarded to Mr. Curtis, the entomologist, for examination, and also desired it to be stated in the reports of the proceedings of the meeting that the Society would be obliged by any further information on this subject from the members or others whose mangel crops had suffered in a similar manner to those above-named; and in case any successful remedy had been discovered, by an account of its nature and mode of application.

Mr. Whitehead transmitted copies of the prospectus of the "Cottage Improvement Society," 18, Adam-street, Strand

Baron de Cetto, of the Bavarian Legation, transmitted copies of the Transactions and Almanac of the Agricultural Society of Bavaria.

The thanks of the Council were ordered for the above communications, as also for the Journal of the Statistical Society, the Transactions of the Entomological Society, and the American Geographical and Statistical Society, which were placed on the table.

The Council then adjourned to the weekly meeting on Wednesday next.

At a weekly Council held June 15: Present, Mr. RAYMOND BARKER, Vice-President, in the Chair; Lord Camoys, Lord Faversham, the Hon. W. G. Cavendish, M.P., Mr. Raymond Barker, Mr. Caldwell, Mr. Brandreth Gibbs, Rev. L. V. Harcourt, Mr. Wren Hoskyns, Colonel M'Douall, Mr. Slaney, M.P., Colonel Towneley, Mr. Wilkinson, and Mr. Wilson, of Stowlangtoft—

The Earl of Malmesbury, Secretary of State for Foreign Affairs, transmitted the report of Mr. Morgan, Her Majesty's Consul at Bahia, respecting some original deposits of guano (from which nitrate is extracted) existing in the province of Bahia. The Lords of the Committee of Privy Council for Trade transmitted the three boxes of sample of the guano referred to in the above despatch, and requested to be favoured with the result of any experiments that may be made with a view to ascertaining the value of this substance. Mr. Morgan's report states that favourable accounts have been given of the samples already sent to London, Liverpool, and Birmingham. The deposits exist in beds of limestone, some of them extending over twenty square leagues. The most available deposits are found on the road to the diamond districts. The chief drawback is the want of good roads, but that the formation of a railroad is in contemplation. There are also other and almost inexhaustible deposits in the neighbourhood of the River San Francisco, province of Planhy. These altogether extend over a territory of upwards of 200 square leagues. The report proceeds to detail the process of extracting the nitre which is used to prepare gunpowder of a very ordinary quality, and to preserve meat and fish. The report concludes thus: "From information received from several of the proprietors of those deposits lying in the intended line, I believe, with the railroad, the primitive earth or manure could be replaced in England at £7 to £9 per ton. Should the trade in this article increase, either from competition or abundance, it is but natural to suppose it would be placed at a lower figure for the purposes of our commerce, inasmuch as the manure in question contains highly organized matter with a large quantity of real ammonia and nitrogen, alkalies, magnesia, sulphate and carbonate of lime."

On the motion of Mr. Wren Hoskyns, these communications were referred to the Chemical Committee with a view to the samples being analyzed by Dr. Voelcker, the Society's consulting chemist; and the thanks of the Council were ordered to be conveyed to the Earl of Malmesbury and to the Board of Trade for these communications.

A letter from Mr. Bullock Webster (dated from Athens) was read, in which he states that he has been devoting attention to the Vine disease, and that the application of sulphur has proved most successful in Greece, and that the same effect has been produced on blighted green crops. He can speak with confidence as to Potatoes, Beans, Peas, fruit trees, Roses, trees, &c., and that he has no doubt of its efficacy as regards both

Turnips and Hops. He also states that the sulphur ought to be applied in a very fine powder in the early stage of the growth of the plant, as soon as any blight shows itself; it is applied either by means of a large tin pepper-box or small bellows (of which he enclosed a sketch). A woman can dress an acre of Vines per day. Scarcely any change will be observable in the crop for the first ten days; after that it becomes healthy. Should rain fall within five days after the application of the sulphur the operation has to be repeated.

A letter was read from Mr. Curtis, the entomologist, respecting the insects forwarded by order of the Council, and by which Mr. Greenwood's Mangel Wurzel crop had been nearly destroyed. Mr. Curtis states them to be the larvae of a beetle which has at various times injured the crops of Mangel Wurzel in Ireland and in France. The beetle is the *Silpha opaca*, fully described in the Society's Journal (vol. viii., page 404, and plate 8, figures 12 to 24). Mr. Curtis observes that notwithstanding the leaves being nearly or entirely consumed, the plants have been known to recover and to produce a fair crop. Mr. Curtis also transmitted the prospectus and the first number of an entire edition of his sixteen reports published in the Society's Journal, and which are now being reproduced in a complete separate form by Messrs. Blackie and Son, entitled "Farm Insects."

The thanks of the Council were ordered for each of the above communications.

The Council then adjourned.

At a SPECIAL COUNCIL held Wednesday, June 22, 1859, his Grace the Duke of Marlborough, President, in the Chair, Lord Berners, Lord Faversham, Sir E. C. Kerrison, Bart., M.P., the Hon. W. G. Cavendish, M.P., the Hon. Col. Hood, Mr. Amos, Mr. Barnett, Mr. Bramston, M.P., Mr. Brandreth, Mr. Caldwell, Col. Challoner, Mr. Druce, Mr. Exall, Mr. Brandreth Gibbs, Mr. Fisher Hobbs, Mr. Wren Hoskyns, Mr. James Howard, Mr. Hudson (of Castleacre), Mr. Hutton, Mr. Jonas, Mr. Kinder, Mr. Lawes, Mr. Milward, Mr. Pain, Mr. Poppe, Mr. Shuttleworth, Mr. Slaney, M.P., Mr. Robert Smith, Mr. Banks Stanhope, M.P., Mr. H. S. Thompson, Mr. Torr, Mr. G. Turner, Mr. Jonas Webb, Mr. Burch Western, and Mr. H. Wilson.

The report of the Special Committee appointed to examine the past accounts of the Society was read, received, and confirmed—

It was moved by the Hon. Col. Hood, and seconded by Lord Berners, "That Mr. Hudson be dismissed from the office of Secretary."

The Special Committee (with the addition of the names of Mr. Fisher Hobbs and Mr. Brandreth) was reappointed to carry out certain recommendations contained in the above report, and instructions were given by the Council relative thereto.

On the motion of Mr. Brandreth, seconded by Col. Challoner, it was resolved, "That a Committee be appointed, consisting of the President, Vice-Presidents, Trustees, and the following members of the Council; the Hon. Col. Hood, Mr. Barnett, Mr. Jonas Webb, Mr. Wren Hoskyns, Mr. Torr, Mr. Fisher Hobbs, Mr. Milward, Mr. Brandreth Gibbs, Mr. Amos, and Mr. Brandreth, to take into consideration and report to the next general Council what in their opinion should be the general and particular duties of the Secretary, and the mode of his appointment.

JUDGES FOR THE WARWICK SHOW.—Col. Challoner, chairman of the Implement Committee, presented the report recommending the judges of implements.

Mr. Milward, chairman of the Live Stock Judges Committee, presented the report recommending the

judges of live stock, cheese, and wool. These reports were received and confirmed.

STEWART OF CHEESE AND WOOL.—On the motion of Mr. Braudreth Gibbs, Mr. Pain was elected to this office.

PRIZE ESSAY.—Mr. H. S. Thompson, chairman of the Journal Committee, reported the recommendation that the Prize of 25 Sovereigns for the best Report on the Agriculture of the Islands of Jersey, Guernsey, Alderney, and Sark, be awarded to the author of the Essay bearing the motto "Practical." The sealed

envelope having been opened by the President, the author was declared to be C. P. Le Corme (Honorary Secretary to the Royal Jersey Agricultural Society), Beaumont, Jersey.

The Council decided several cases as to qualification of live stock and implements: also matters of detail connected with the approaching show at Warwick.

The Council then adjourned to its weekly meeting on Wednesday, the 29th inst., when Prof. Voelker's report on the Analysis of a Mangel root kept two years will be read.

AGRICULTURAL REPORTS.

GENERAL AGRICULTURAL REPORT FOR JUNE.

The weather during this month has been unusually fine and vegetative in all parts of England. Even in our most backward districts the wheat crop has progressed with some rapidity; nevertheless, it has exhibited great luxuriance in each locality, and there is every prospect of a full average yield, notwithstanding that a portion of it has been laid upon some heavily-manured soils in Essex, Kent, and Middlesex, including Norfolk, Kent, and Cambridgeshire. The blooming time in the early counties has passed off remarkably well, and the sickle is likely to become in partial operation by the 15th of July. Barley is looking remarkably well, and the same may be said of oats and peas; but, in many quarters, beans are expected to be a partial failure.

The state of the wheat trade, and the rapid fall in prices from the late comparatively high point, have produced no little anxiety on the part of the growers in reference to the future. The commencement of the war in Piedmont naturally led to considerable excitement in the demand, and large parcels of wheat changed hands on speculation. Since, however, it has been understood that the war is likely to be localized in Italy, notwithstanding that Prussia is exhibiting a warlike feeling, the decline in value has been nearly as rapid as the late upward movement. At present, therefore, prices are nearly as low as they were prior to the commencement of hostilities. Within the last few days there has been more disposition shown to purchase wheat, and the quotations have slightly improved; but we see no reason to assume that any further advance of moment will take place in them. Of course much will depend upon the results of the war; in other words, any further complication of events, in which Prussia may be involved, may lead to a portion of our imports being cut off. This, by the way—even admitting that matters on the continent are in anything but a favourable position—is a contingency hardly to be expected; consequently, we incline to the opinion, that the aggregate importations of produce during the present year will be fully adequate to our wants. From the United States, even though prices there are declining, and even though harvest work has been commenced in the South, very little wheat or flour can be expected until quite the close of the year; but we must bear in mind that the grain and flour trade of France has now assumed proportions of great magnitude; indeed, so large is it, that the almost entire stoppage of our usual supplies from America has failed to have any influence upon prices here, arising from the enormous quantities of produce shipped from the various ports in the north of France. The flour now received into London and Liverpool, belong of a superior character, has readily found buyers, chiefly for mixing purposes, and the quantity received since the additional export duty was imposed, has considerably increased. Seeing that the export trade in France is not likely to fall off, and that we shall, consequently, receive quite as much as can be readily consumed, the deficiency from the United States is a matter of no importance to the consumers. Again, as regards the future, we must bear in mind, that the stocks of English wheat now on hand are still very large—that the warehoused supply of foreign is heavy—and that supplies from the Baltic are pouring in upon us fully up to the average of most years. Whilst this state of things continues, we can hardly venture to predict permanently rising markets for wheat; but,

on the other hand, there is no reason to look forward to what may be termed depressed currencies, notwithstanding that a portion of our usual imports from Italy and the United States will not come forward at the usual period. The spring corn trade is likely to rule steady for some time, and, no doubt, the quotations, generally, will be well supported.

The hay-harvest has been commenced in the near counties, and its result is likely to be a most satisfactory one. The growth of both meadow and clover is considerably in excess of last year, and nearly, or quite, equal to 1857, in which year was produced one of the largest growths on record, and the greater portion of it has been got up in excellent condition. For the time of year, a full average quantity of old hay—both meadow and clover—is in stock, and we conclude, therefore, that prices during the remainder of the season will rule somewhat lower than at present. Straw, too, is very plentiful, and the highest quotation in London does not exceed 29s. per load. Meadow hay has changed hands at £2 15s. to £4 8s., and clover do. £1 to £5 8s. per load. The abundance of green food has tended materially to check any upward movement in the value of hay.

Although accounts have come to hand from time to time to the effect that stock is very scarce in some parts both of England and Scotland, large supplies continue on offer in nearly the whole of our cattle markets. Prices have, consequently, had a downward tendency. For the most part, both beasts and sheep have appeared in good saleable condition, and, in many instances, beasts of a most superior class have been exhibited both from Norfolk and Scotland.

Unfavourable reports have been spread in reference to the potato crop; but our impression is, that they are too highly coloured to command much attention. So far as we can learn from the best sources of information, the crop is in no danger whatever, as a whole. It is true, that a few instances may be met with, in which partial failures are observable; but, taking the crop as a whole, we believe that there is every reason to anticipate a most abundant growth, not only in England, but likewise in Scotland. Rather large supplies of old potatoes have come forward for the time of year, and the receipts of new have steadily increased. From France, Holland, Spain, and some other quarters, the imports have been liberal, and in fair condition, whilst they have changed hands at from 6s. to 11s. per cwt. A few very fine old potatoes have found buyers as high as 200s. per ton.

The clip of English wool this year has turned out a very large one. In the early part of the month the trade was in a depressed state, owing to the sudden falling off in the export demand; but it has since become more active, from foreign buyers having again made their appearance in the market, and a portion of the decline has been recovered. In the manufacturing districts rather increased quantities of wool have been worked up, chiefly in articles suited to the American markets, and the next series of public sales in London are expected to go off steadily, even though about 90,000 bales of colonial wool will be brought forward.

In Ireland and Scotland the grain trade has continued in a very inactive state on easier terms. Both the imports and exports of produce have been on a very moderate scale, and dealers generally have acted with more than usual caution in effecting purchases. Most of our correspondents agree in

stating that the available stocks of grain, especially of wheat are good for the time of year.

REVIEW OF THE CATTLE TRADE DURING THE PAST MONTH.

Compared with the corresponding period in several previous years, the total supplies of sheep and lambs exhibited in the Metropolitan Cattle Market have been very large, viz., 159,850 head, against 144,280, in June, 1858; 108,480 in 1857; 112,110 in 1856; and 125,570 in 1855. The receipts of beasts, calves, and pigs have been seasonably good; whilst there has, perhaps, been a much greater weight of meat disposed of than usual. The excess in the arrivals has produced the usual result, viz., heaviness in the trade, and depression in prices; nevertheless, the latter still continue high, and, on the whole, remunerative to the breeders and feeders. But the decline in the value of fat stock has not been followed by any change of moment in the price of store animals, which, in most counties, are now held for what may be considered dangerously high currencies, so far as the future interests of the feeders are concerned. The high rates, however, are, we imagine, chiefly the result of a great abundance of pasture food, more particularly in the neighbourhood of London, and the somewhat active inquiry for half-fat beasts and sheep.

The Norfolk "season" for beasts is now drawing to a close, and it has certainly turned out a brilliant one, both as respects the number and weight of the animals brought forward. And here we may remark, that nearly two-thirds of the beasts received from that county during the past six months have been composed of crosses of a most superior character; in point of fact, not a few of them have been too good for the time of year. From Scotland, numerous beasts of heavy weights, and extremely fat—certainly fit for Christmas consumption—have been received; whilst it is stated, that a much finer race of animals than usual will be forwarded to the metropolis from Lincolnshire, Leicestershire, and Northamptonshire, between this and the end of the year.

We have had but trifling imports of beasts from the continent, and the arrivals from Spain and Portugal have not increased. The deficiency in the importations must be chiefly attributed to the stringency in the Customs House rules in the examination of the stock received from time to time. This stringency has been much declaimed against; but, from what we have frequently seen, it has become an imperative duty on the part of the authorities to prevent the introduction of disease into this country. The few sheep received from Holland have been in good condition; but the bulk of the imports of that stock has been derived from Germany in the shape of Mecklenburgs, but which have sold at very low prices, viz., from

21s. to 27s. each. The supplies of both beasts and sheep in Holland are now increasing to some extent, and, eventually, they will find their way to this country, unless, indeed, they should continue in a state unfit for shipping purposes. Most of the sheep now imported from that country bear strong signs of crossing with some of our Hampshire Downes. The stock of winter food is not yet exhausted, and, for the most part, both beasts and sheep have continued to fare remarkably well, the great abundance of grass having been of the highest importance to the grazing community.

The imports of foreign stock into London during the month have been as follows:—

Beasts	1,058 head.
Sheep	12,848 "
Lambs	2,728 "
Calves	2,155 "
Pigs	86 "

Total	18,875
Same time in 1858	17,720 head.
" 1857	13,551 "
" 1856	10,136 "

The total supplies from all sources, exhibited in the great Metropolitan Market, have been as under:—

Beasts	18,598 head.
Cows	505 "
Sheep and lambs	159,650 "
Calves	2,967 "
Pigs	2,152 "

COMPARISON OF SUPPLIES.

June.	Beasts.	Sheep & Lambs.	Calves.	Pigs.
1858...	18,492	144,280	2,972	3,115
1857...	20,063	108,480	2,404	2,125
1856...	17,896	112,110	1,839	2,740
1855...	19,173	125,570	2,209	3,180

Beef has sold at from 3s. to 4s. 8d.; mutton, 3s. 4d. to 5s. 2d.; lamb, 5s. to 6s. 4d.; veal, 4s. to 5s. 2d.; pork, 3s. to 4s. 2d. per 8lbs. to sink the offal, with the exception of lamb, these prices corresponding to June, 1858.

From Norfolk, Suffolk, Essex, and Cambridgeshire, 11,850 Scots, shorthorns, and crosses have come to hand; from other parts of England, 3,400 of various breeds; from Scotland, 1,070 Scots and crosses; and from Ireland, 323 oxen and heifers. The receipts of sheep from Ireland were 1,200, and of lambs 2,000 head.

Very limited supplies of meat have been on offer in Newgate and Leadenhall markets, arising from the hot weather. The trade, however, has been heavy, at a general reduction in prices of fully 2d. per 8lbs.

CALENDAR OF AGRICULTURE.

The sowing of turnips is finished by the middle of this month, which is preferred in the Eastern Counties to avoid the fly and mildew. Drilled crops are constantly scuffled and hoed; and all weeds destroyed. Clay lands in fallow are prepared, and lime and dung provided. Stones and tiles are brought forward for draining, which is well performed during dry weather.

Hay harvest will be finished during this month. Convey the herbage as dried, and thatch the ricks when consolidated. Have thatch ready, and protect the ricks from rain with tarpaulin cloths. A light cloth may be suspended over ricks by pulleys, and save from violent rains.

Continue to fold the store sheep, both on pasture and arable lands. The improvement is cheap and effective.

Vetches and clovers will now be abundant. Cut and carry the herbage in a fresh state for horses and cattle in the yards, and for milch cows at night in the yard and shed. Provide ample littering in the cattle-yards—the dung made will repay any attentions.

The sheep must be protected from the fly by the dredging box; and make cots in the fields from the searching heats. Put mares to the stallion regularly. Provide water in the pasture-fields, and keep fences in good repair, with gates and wickets.

In early seasons and climates, corn-harvesting will begin in the end of the month, with peas, barley, and rye. The barns and rick-stands must be ready to receive the crops, which may soon be carried.

CALENDAR OF GARDENING.

Transplant brocoli at various times for an early and spring supply, and in moist state of the ground. In dry weather, fill holes with water beneath the plant. May-sown cauliflower are treated in the same way. Sow endive twice in the month. Sow evenly the last crop of scarlet-runners and of French beans. A row or two of cos-lettuce, radish, white and red turnip varieties, some carrots, onions, and salading as required. Earth celery very carefully, with one hand holding the plant, and the other applies the soil close around the lower parts, but not so high as the growing kernel. In dry weather water the trenches very copiously, in order to promote full growth. Sow a full crop of turnips—early Dutch, white, and yellow—for the use of late autumn and during winter.

After the second week sow cabbage seeds for colewerts, called greens, one of the sweetest of spring vegetables.

Transplant leeks on plots richly manured with guano and sulphate of ammonia. In case-like balls place a leek over some water to fix the roots.

Transplant cucumbers and vegetable-marrow plants from the hot-beds. Dig a hole on warm ground, put in rich leafy manure, and cover lightly with earth; plant, water, and cover with hand-glasses till the growth is established, and then gradually train out the runners. Stop the points occasionally to obtain later cuts.

Take up and dry flower bulbs, and larger pinks and carnations. Propagate geraniums by cuttings in sand and leafy mould.

REVIEW OF THE CORN TRADE DURING THE PAST MONTH.

The last week in May, which could not be included in our review of that month, closed fine, but with a further reduction in the price of wheat of 2s. to 3s. per quarter. The month of June has, on the whole, been favourable to the crops. The first week had an abundance of rain, with a very growing temperature; the middle of the month being very stormy, with fine but variable weather to the close. The heavy storms laid a good deal of corn; but this occurring before the earing, most of it has recovered, and the worst pieces have improved beyond expectation. The early equal growth, followed finally with abundant moisture, ensures a great bulk of straw; and as the blooming time has hitherto been propitious, a full average gathering may be expected. The hay crop has been fair, the growth though late being very rapid, and, with the exception of some forward pieces, the ricks are being got up in fine condition; but a scarcity of hands, from the absence of the Irish this season, makes the operation slow and expensive. The increased fall of rain has replenished the ponds and wells; and though an average supply is not yet secured, there is now a fair provision.

The month, till the last week, shows a continued decline in prices, making the rates about 4s. per qr. lower, and very little above the low quotations which so long ruled, though the averages, which are generally a fortnight or three weeks behind the markets, do not show the entire reduction. This decline may be traced to several causes. The sudden outbreak of the war, with the notion that Russia was allied to France, made an unusual advance in the beginning of May, which produced as sudden a reaction when this alleged treaty was disclaimed, leading to the impression that the war would be restricted to Northern Italy. The French and other European markets not partaking of the excitement here, and our own course being that of neutrals, the large advance here produced corresponding orders and heavy foreign supplies; and these arriving during

favourable weather, both speculators and growers lost heart, and eventually nearly the whole improvement was lost. But with the onward progress of the French arms and machinations, the movement of Prussian troops towards the Rhine, the gatherings of Russian armies on the frontiers of Germany, and the revolutionary outbreaks in Southern Italy, who can say that the political sky is clear? while the critical time of harvest is nearing, with the weather somewhat broken.

There has, too, been a lavish use of wheat for cattle feed. The price was so low in autumn that we hear less has this year been grown. The tide of population still swells; foreign stocks have everywhere much diminished; storms have done some damage in France; and though prospects in America are good, but little there is left on hand. Immigration, too, keeps going on in that country; and prices are almost one-third more than our own, there being now no port in the world to meet English rates; supplies therefore must diminish; and should a firm tone be taken by the country markets, London must follow.

There are reports, again, of the disease in potatoes; and should there be much wet, and a free development of electricity in the atmosphere, the crop, though looking well, will not be safe. Spring corn is progressing favourably, but, excepting beans, have very few pods in some places.

Harvest has commenced in Algeria, Italy, and some parts of the southern states of America—the crops being well reported. The following rates show the prices at present ruling in foreign ports:—

At Dantzic first quality wheat is still worth 55s. per qr., which is about the same that it brings here. At Berlin and Konigsburg the price was about 48s. per qr. At Hambro' fine 62lbs. was worth 50s. per qr. At Stettin fine Pomeranian 47s. per qr. The quotation at Paris is about 41s. per qr.; at Nantes, 41s. to 44s. 6d. per qr.; at Bordeaux, 44s. 6d. to

46s. per qr. The price of native wheat at Antwerp was 45s. per qr.; Guelders at Amsterdam, 43s. per qr. Sardinian wheat, at Genoa, notwithstanding large arrivals, was quoted 56s. per qr.; and Berdianski, 49s. per qr. At Odessa the range of quotations was from 29s. to 42s. per qr. At New York the common sort, called Milwaukee Club, was 43s. 4d. per 480lbs.; Southern red, 61s. 8d. per 480lbs.; white, 63s. 4d. per 480lbs.; and white Kentucky, 66s. 8d. per 480lbs. The best Genessee flour being equal to 55s. 8d. per English sack, against our own top price of 46s. Prices of best red winter at Chicago, 1 dollar 50 cents per bush.—50s. per qr.; white, 1 dollar 60 cents per bush.—53s. 4d. per qr. of 480lbs.

The first Monday commenced on a small English and liberal foreign wheat supply. The samples sent up from Kent and Essex during the morning were less in number than usual; millers, however, appearing to expect a further reduction, were indisposed to give former rates except in a few instances, and as holders were disinclined to yield, the bulk, small as it was, was mostly left over for sale. In foreign scarcely anything was passing. No advantage, however, resulted from holding over, as Wednesday was not a more favourable day, and on Friday sales could only be made by yielding 1s. to 2s. per qr. The country markets were either supported with difficulty, or accepted lower rates. Newcastle, Spalding, and Hull were nominally unaltered; Leeds, Manchester, Birmingham, Boston, and Wakefield only made a decline of 1s.; but Sleaford, Bristol, and Gloucester were 1s. to 2s. cheaper, and some few places 2s. to 3s. lower. Liverpool, on Tuesday, was 4d. to 6d. per cental down, and Friday made prices 3d. per cental worse.

The second Monday opened with a small English supply; but from the continent there was no less than 61,600 qrs.: it therefore mattered little that the near counties sent up but few samples in the morning, the market being quite taken aback by the foreign arrival. Still, there were buyers of English at 3s. to 4s. per qr. lower in quantity, and as this heavy reduction was declined, very little was done, and that at about 2s. to 3s. less money than could be procured on the previous Monday, the principal part of the samples being again left over, from which no benefit was eventually derived. To sell foreign a large sacrifice would have been necessary, and therefore the cargoes arrived were ordered to granary at once, in expectation of better markets. The country markets were staggered by the London advices, and all sales made were on lower terms. Melton Mowbray did not reduce rates beyond 1s. to 2s. per qr.; but generally the reduction was more. Newbury, Manchester, Wolverhampton, Gloucester, and Newark were 2s. to 3s. per qr. cheaper; Birmingham was fully 3s. per qr. down; Leeds, Boston, Market Rasen, and some other places were 3s. to 4s. per qr. cheaper; and at Gainsborough there was a perfect stagnation in trade. Liverpool, on Tuesday, was 4d. to 6d. per cental cheaper; but on Friday there was a better sale at previous rates. The Scotch markets, though the weather was too dry, were all affected by the advices from the South; Glasgow, with large arrivals, finding but a retail trade at 2s. per qr. decline, and sales at Edinburgh

being only practicable on lower terms. In Ireland the same state of things obtained, there being large arrivals there from Nantes and other parts of France, especially at Waterford, where wheat consequently fell 1s. to 1s. 6d. per brl.

The third Monday had a large foreign supply, but scarcely more than one-third of that noted on the second. The English supply was somewhat improved, and with moderate contributions from Essex and Kent for the morning, made a finer show. The best picked lots went off at 1s. less money, but ordinary runs were 2s. per qr. cheaper: still, the predominant feeling being that about the lowest point was reached, there was more disposition to do business than for some time. Foreign factors not being disposed to make lower offers, there was very little done except for mixing. Country advices were none of them so depressed as London, many places quoting no decline on previous rates; as Hull, Sheffield, Louth, and Lynn. Bristol, Leeds, and Newbury were 1s. per qr. higher; Manchester, Birmingham, Spalding, and Boston were up 1s. to 2s.; and Stockton-on-Tees, with a small supply, advanced 2s. to 3s. per qr. Liverpool, on Tuesday, was better attended, and found a fair trade for wheat at 2d. per cental improvement, flour having a better sale. Friday's report noted an improved attendance, with better sale at former prices. The Scotch and some Irish markets were slightly dearer.

The fourth Monday was again well supplied from abroad, though there was less of home growth. Kent and Essex sent up but very few samples, for which at the commencement 2s. to 3s. per qr. more money was demanded, in consequence of the contract out, but eventually sales were only slow at 1s. per qr. improvement, there not being the least stir in the foreign trade.

The four weeks' supply into London has been 16,192 qrs. English, 125,835 qrs. foreign, against 17,128 qrs. English, 94,391 qrs. foreign in June last year. The imports into the United Kingdom in May were 507,546 qrs. wheat, 585,505 cwt. Flour. The exports for the four weeks in June were nil.

The flour trade for the three weeks in June has been in a continuous decline, with much difficulty in sales. On the third Monday town millers reduced their top price from 50s. to 40s. per sack, but country sorts have been cheaper every Monday for three weeks, about 2s. per sack, and French qualities, of which there have been heavy imports, have been irregular in price, and have been equally depressed. On the fourth Monday Norfolks were 2s. per sack higher, and French also improved 1s. per sack.

The four weeks' imports into London have been as follows, viz.:—Of country sorts 52,845 sacks, of foreign 43,732 sacks, chiefly French, with 736 barrels. The exports in the same time were 187 cwts. only.

The barley trade for the four weeks in June has been very steady, the heavy exports to France having relieved the markets from the pressure of a quantity of the lower qualities, malting sorts having been of nominal value, and the shortness of the English arrivals show the crop to be about used up; but from abroad plenty has continued to arrive, notwithstanding the reported deficiency of the crops. Good sweet parcels for distillation and grinding have

The arrivals of linseed have been moderate during the month, viz., 17,706 qrs., and the exports 2,444 qrs. The trade has lost something of its firmness, though there does not seem much probability of a heavy decline for some time, the only fall being about 1s. per qr.; cakes have not been so readily placed, but the rates have not given way, fat stock having realized good prices for some time.

CURRENCY PER IMPERIAL MEASURE.

	Shillings per Quarter.
WHEAT, Essex and Kent, white	41 to 51
red	39 47
Norfolk, Linc., and Yorks., red	39 47
BARLEY, malting to 23 Chevalier	38 37
Grinding 28 29 Distilling	30 31
MALT, Essex, Norfolk, and Suffolk 51 to 69 fine	60 66
Kingston, Ware, and town made ..	51 59 60 66
BROWN.....	50 51 — 31
RYE.....new	— 30 31
OATS, English, feed 21 25.... Potato.....	36 39
Scotch, feed 22 26.... Potato.....	25 29
Irish, feed, white	21 23 fine 25
Ditto, black	21 24 , 25
BEANS, Masagan 39 41.... Ticks 39	41
Harrow 40 44.... Pigeon.....	45 48
PEAS, new, white, bollars 44 48 Maple 44 46.. Grey 41	44 46
FLOUR, per sack of 80 lbs., Town, Households 40s., fine 41	44 46
Country, nominal 32 34 Households.....	35 39
Norfolk and Suffolk, ex-ship	33 33

SIX WEEKS.											
FOR THE LAST		WHEAT.		BARLEY.		OATS.		RYE.		BEANS.	
WEEKS:		s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
May 14, 1859		54	4	33	10	25	4	35	4	45	1
May 15, 1859		54	4	33	7	26	8	35	3	47	0
May 28, 1859		53	6	33	6	25	9	33	8	46	6
June 4, 1859		53	5	33	8	26	1	37	7	40	5
June 11, 1859		51	5	31	8	25	11	37	9	45	0
June 18, 1859		49	11	31	5	24	11	36	9	47	40
Aggregate average		52	6	32	9	25	9	36	5	46	3
Same time last year		44	7	34	5	26	0	32	9	41	8

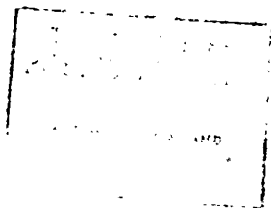
BRITISH SEEDS.

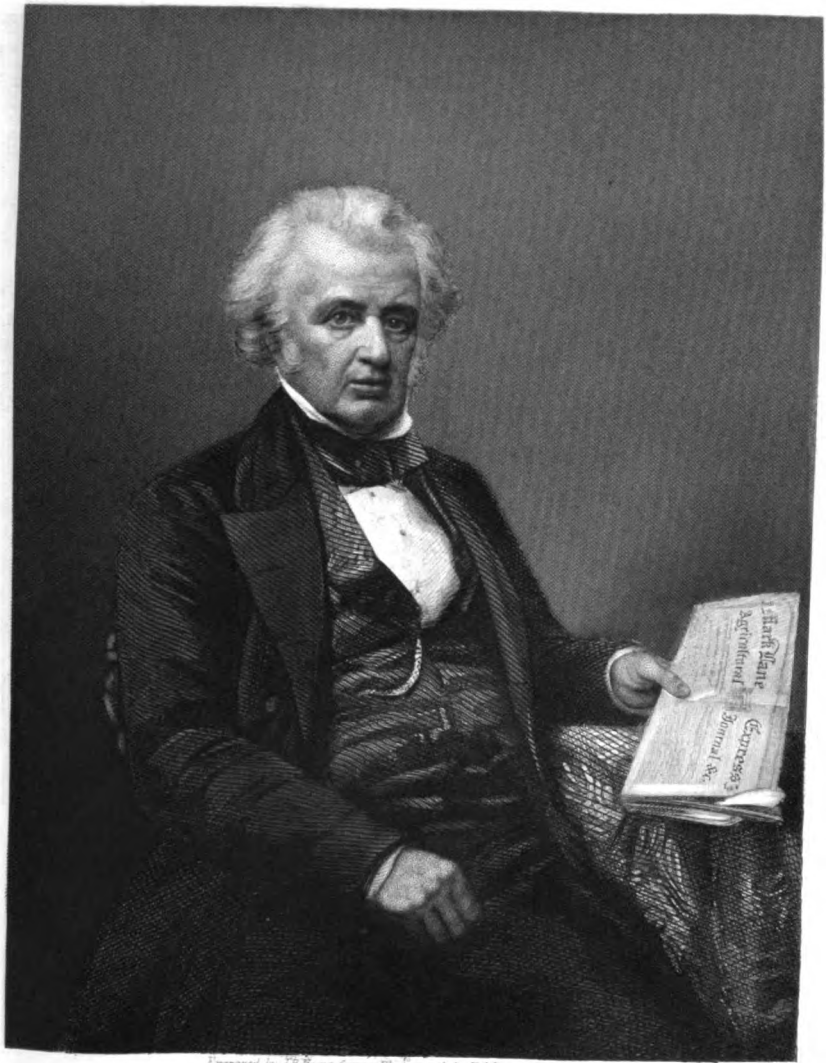
TREFOIL, new.....	—s. to —s.
TARPS, Winter, new, per bushel.....	—s. to —s.
MUSTARDSEED, per bush., new 12s. to 17s. brown 10s. to 12s.	
CORLIARDEE, per cwt.....	14s. to 16s.
CANARY, per qr.....	64s. to 66s.
LINSEED, per qr., sowing —s. to 64s., crushing 54s. to 58s.	
LINSEED CAKES, per ton.....	£9 10s. to £10 10s.
RAPSEED, per qr.....	76s. to 78s.
RAPSEED CAKE, per ton.....	£5 10s. to £6 0s.

LONDON, MONDAY, June 27.—Our market during the past week has presented a very languid character, but few sales being effected, and those at prices much below the nominal value. The bison, on the whole, has made favourable progress; but this morning, reports speak of fresh fly in several districts, and of considerable increase of blight in Worcester, Farnham, and the country parishes. The duty has been backed at £180,000.

MEASE & WILD.

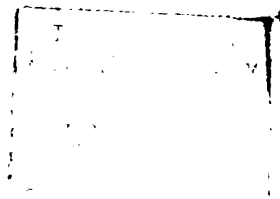
BOROUGH AND SPITALFIELDS, June 27.—For the time of year a fair average supply of old potatoes is on sale in these markets. The demand is inactive, and prices may be quoted at from 60s. to 200s. per ton. New potatoes are coming more freely to hand, and sales progress steadily, as follows: English, 7s. to 11s.; Jersey, 7s. to 10s.; Scilly, 6s. to 10s.; Spanish, 6s. to 8s.; French, 8s. to 10s per cwt. Last week's imports were 9,458 baskets from Rotterdam, 168 from Antwerp, 607 from Dunkirk, 29 from Boulogne, 50 sacks from Rouen, and 861 boxes 363 baskets from Lisbon.





Engraved by J.B. Hume from a Photograph by E.C. North, Harrogate

Yours Truly
John Rogers



THE FARMER'S MAGAZINE.

AUGUST, 1859.

PLATE I.

PORTRAIT OF MR. JOHN ROGERSON.

PLATE II.

THE GREAT MOGUL; A SHORTHORN BULL.

THE PROPERTY OF STEWART MARJORIBANKS, ESQ., OF BUSHEY GROVE, WATFORD, HERTS.

MR. JOHN ROGERSON.

Mr. JOHN ROGERSON was born at Sotby, in the county of Lincoln, on the 11th of November, 1782. Sotby lies right in the heart of the Wolds, and is almost central between Horncastle and Louth. The Rogersons had for generations held a farm of some five hundred acres here under the Vyners of Gautly, and Mr. Rogerson's house was long the acknowledged rendezvous for the famous coursing parties at one period held upon the estate. The father of the subject of this notice, and himself a John Rogerson, in connection with Mr. Codd, of Ranby, first introduced the improved Leicesters into Lincolnshire; and the celebrated Bakewell, of Dishley, was for many years in the habit of inspecting their flocks. The Sotby bullocks, too, are yet well remembered, as even then fed upon oilcake, and showing to great advantage at the Lincoln April fair.

The son John was educated at Scamelsby, where he evinced a decided talent for landscape drawing and land-surveying. In fact, so great was his proficiency in this way, that immediately

after leaving school he had the offer of a very lucrative engagement, by an eminent engineer and surveyor, at Lincoln. The father, however, had died when his sons were yet boys, but it was still determined that John and his brother, the late lamented Joseph Rogerson, should carry on the farm, and they entered upon it accordingly in 1803, just when the elder brother had attained his majority. They continued their occupation for over thirteen years, the younger attending more to the home business of the farm, and the other to the markets, for the sale of their stock and produce. Still Mr. John Rogerson had been thoroughly instructed as a practical farmer, and some of his successful experiments in the drilling of wheat, made no little sensation at that comparatively early period in the history of improved agriculture. He was also considered a capital judge of stock, and remarkable for telling the weight and quality of both beasts and sheep before they were slaughtered. In truth he had some experience in this way, and learnt many a useful hint

from the butcher himself. Then he sowed his own turnip and clover seed, as well as a portion of his corn crop, and was one of the best ploughmen in the district—his head waggoner, Edward Scholey, who once took the prize at Horncastle, being almost his only superior.

But in the course of a few years Mr. Rogerson got rather beyond the mere proficiency of practical farming, and transacted other business to a considerable extent. He attended three markets a week regularly—Boston on Wednesday, Lincoln on Friday, and Horncastle on Saturday. Lincoln is a good sixteen miles from Sotby, and the usual ride there before breakfast is still spoken of as a fine thing for creating an appetite, despite “the other glass,” the jolly good fellows of those days might have had the night before. One great feature sprung from Mr. Rogerson’s connection with commerce. On giving up the farm at Sotby, the younger brother, Joseph, proceeded to London, where, after a time, he entered on the business of a printer, and whither John followed him in the course of a few years. The *Mercantile Journal* was amongst other papers then issued from the office in Norfolk Street, Strand, and the price list in this struck a home chord in the heart of Mr. Rogerson. He reflected how imperfectly the price of corn was given in the newspapers; how the corn article was written before the markets closed, and often consequently without any notice of an important turn that might take place towards the finish. He knew how the dealers and Trade endeavoured to make up for this deficiency by their own private letters and advices, and he so came to the conclusion that an acknowledged authority for the Mark-lane market was required. In a word, Mr. John Rogerson originated the *Mark Lane Express*. His brother Joseph heartily supported the proposition,

and thus, under the editorship of the late Mr. William Shaw, the first number of that paper was published—with what ultimate success it is hardly necessary here to say.

Mr. Rogerson, however, did more than merely offer an idea for others to work out. He himself travelled England, Ireland, and Scotland for the best correspondents and agents, and materially contributed to the encouraging support under which the *Mark Lane Express* was founded. He was also greatly instrumental to the establishment of the Farmers’ Insurance Office, of which he is still solicitor, having duly qualified and passed for that profession after some years’ residence in London. He is as well identified with the other institutions of agriculture, and has long been a Governor of the Royal Agricultural Society, in the formation of which he took a deep interest. He is also a member of the London Farmers’ Club, although his advanced age has not latterly permitted his attendance at any of these or similar gatherings. In fact, first impressions have had their full weight and influence over Mr. Rogerson’s useful career. The son of a farmer, and himself thoroughly educated for the same path in life, all his great hopes and aspirations have still been centred in the cause. No matter whether the scene of his labours be town or country, he has still been thinking of what he might do for agriculture. His endeavours have not been without their reward. He can count upon many friends in all parts of the United Kingdom, made mainly in the prosecution of those “points” he has succeeded so well in developing. And in association with that of his brother, his name will long be known, to use a somewhat forensic phrase, by “the paper he holds in his hand.”

THE GREAT MOGUL; A SHORTHORN BULL.

THE PROPERTY OF STEWART MARJORIBANKS, ESQ., OF BUSHEY GROVE, WATFORD, HERTS.

The Great Mogul, bred by Mr. Marjoribanks, and calved October 26th, 1856, was got by Grand Turk (12969), dam (Victoria 8th) by Sir John Sinclair (5165), g. d. (Victoria 4th) by Prince Albert (11933), gr. g. d. (Victoria 2nd) by Belsoni (783), gr. gr. g. d. (Victoria) by Satellite (1420), gr. gr.

gr. g. d. (No. 1, Mason’s) by Cato (119), gr. gr. gr. g. d. (Pope Cow) by Pope (514), gr. gr. gr. gr. g. d. by Favourite (252), gr. gr. gr. gr. gr. g. d. by White Bull (421), gr. gr. gr. gr. gr. gr. g. d. by Favourite (252), gr. gr. gr. gr. gr. gr. gr. g. d. by Dalton Duke (188), gr. gr. gr. gr. gr.

gr. gr. gr. gr. g. d. by R. Alcock's Bull (19), gr. gr. gr. gr. gr. gr. gr. g. d. by Smith's Bull, gr. gr. gr. gr. gr. gr. gr. gr. gr. g. d. by Jolly's Bull.

In 1857, at the Salisbury Meeting of the Royal Agricultural Society of England, Grand Turk took the first prize of 10 sovereigns as the best Short-horn bull-calf in the show, beating Mr. Booth's Lord of the Valley, and some other highly-bred young ones. In the month following, at the York Meeting of the Yorkshire Agricultural Society, he took the second prize of 5 sovereigns for bull calves, and Lord of the Valley the first.

In 1858, at the Chester Meeting of the Royal Agricultural Society, the Great Mogul took the second prize of 15 sovereigns, for short-horn bulls over a year old, and calved since July, 1856; Lord

Hill claiming the first with Hetman. At the Northallerton, following Meeting of the Yorkshire Society, he took the first prize of 20 sovereigns as the best short-horn bull over a year old, Mr. Fawkes' Don Giovanni second, with a strong entry of highly commended.

The Great Mogul is a rich roan bull, remarkably handsome, symmetrical, and generally good in his points. Perhaps no animal was ever more fancied from the first, and they made quite sure of winning with her at Salisbury, when put up at the Bushey sale in the spring of '57, where he was bought in for four hundred guineas. He is now in full work there. The Great Mogul was not exhibited at the Warwick Meeting, because, as we are advised, "it would have been necessary to load him with flesh, and thereby impair his usefulness."

THE HERDS OF GREAT BRITAIN.

CHAPTER XI.

THE ATHELSTANEFORD HERD.

A railway ride of some forty miles over the Border brought us at last within eighteen of "Edinburgh town," and just beneath the shadow of the Berwick Law, which rises in all its majesty as the watch-tower of the East Lothian. It was not, however, from that dark-brown "coign of vantage," that we cared to glean our first impressions of Athelstaneford. We liked better to see them play their own parts, one in the distance, and the other just nestling beneath us, as we took a mental sketch of the panorama, near the old convent vaults on Barney Mains. Mr. Douglas's homestead lies at the foot of a glen, down which the Cocktail Burn—whose waters are connected, in Scottish history, with a bloody day between Athelstane and the Picts—flows from the Garlton Hills. On the highest point of the latter stands the Hopetoun Monument, to tell of valour in a far more glorious field; and in modest contrast to it, is the obelisk, just rising from the centre of the village green, which the zeal of the present minister, Mr. Whitelaw, has reared to the memory of Blair, who, like the author of "Douglas," was one of his predecessors at the manse. On the right is Traprain Law, and running gradually out near Dunbar, the bold range of the Lammermoor Hills, which Mr. Pusey skirted on his second agricultural visit to East Lothian; while just above the deeply-wooded valley, so English-like in every feature, which opens from Athelstaneford, and stretches from Gilmerton House to New Baith, we catch the deep-blue sea-board of the German ocean. Far away, the Bass Rock, ever clangorous with sea-fowl, stands out blunt and bare from its wave-washed base; and beyond Berwick Law we mark the distant range of the Fife county, over which "Merry John" Walker was so great with his "dearies" for one-and-twenty seasons; and Gullane with all its memories of

Despot, Inheritor, and Lanercoat, who came so often, "fresh fra the Forth," to give English rivals a taste of their quality. Dirleton's Woods grow green and fair down to the very edge of the Frith; and as we glance back inland, into a fine open agricultural country, past the snug homesteads of Mr. Hope of Fenton Barns, Mr. Gray of Kingston, and countless others which dot the landscape with their red tile roofs and their steam engine chimneys, we may well feel that we have come to a land sacred to the genius of "Well-to-do-ism."

Mr. Douglas occupies a farm of three hundred acres at Athelstaneford, belonging to Sir David Kinloch; and also holds Muirhouses, of two hundred and fifty acres, under Earl of Wemyss, about a mile-and-a-half from it. The shorthorns are kept entirely at the former, where Mr. Douglas resides, and the store-cattle at the latter. The whole is principally dry-field land, with, in some places, a large admixture of clay; and, with the exception of six acres, there is no old grass. The system is the six-break one; about seventy to eighty acres are annually sown in turnips, and from eight to ten in mangels, of which Mr. Douglas prefers the orange-globe variety. His house at Athelstaneford is undergoing extensive additions; and the silver Dorkings, which include the prize pen at Haddington last autumn, have just been located in a stove-warmed galvanized-wire house, with a crafty trap at the top, for the East Lothian plague of sparrows. Numerous roses also seem his care, and we catch the first glimpse of their short-horn embodiment in Rose of Summer's head, which faces us as we enter the passage. The peculiarly long one of Lalla Rookh, which wore the rosette of victory at so many a Highland and Yorkshire Show, also kept watch and ward in another part of the lobby. There is no painting of this cow, which got jammed against a wall by a cart, and died after she had bred one bull-calf; but her head is not the only memory of Rose of

Summer, who figures with Captain Balco (12546), the sire of her calves, Rose of Athelstane, and Sir James the Rose, in a very excellent painting by Gourlay Steel of Edinburgh. Village Belle, who won a sweepstakes of £2 each, as a yearling at the Royal Dublin Show, where she had ten competitors, is alike favoured; and Water Lily shares her canvas honours with the Clydesdale mare, who gained the Royal English prize at "Merrie Carlisle," and was busy that afternoon in a team with one of her daughters, preparing land for turnips. Upwards of a dozen gold and silver medals lay in array on the side-board, from which the three Challenge Cups of Ireland had but just departed. The Royal Dublin, which Venus de Medicis won last year, has passed over, without competition on Mr. Douglas's part, to Mr. Eastwood through Rosette. In the Purcell, he has already a two years' interest, through Rose of Athelstane and Queen of Trumps; and Lady of Athelstane, Maid of Athelstane, and Titania were his first winning trio of the Waterford.

Some fine specimens, to wit Provost (4846) from a daughter of Colonel Cradock's old Cherry, and Melrose by Gainford (2044) one of her sons, first attracted him at the Highland Society's Show at Edinburgh in 1842, and his improved shorthorn impressions date from that day. Still, it was not until 1846, when the Royal Society met at Newcastle, that he made any extensive purchases. Belleville (6778) was then all the rage, and it was with two yearling heifers by him, that he won the second and third prizes in their class at Aberdeen, the following summer. In that year, he also bought Florence of the Booth's Farewell tribe, and Lalla Rookh, at Mr. Carruthers' of Dormont's sale, the former of which he parted with to Mr. Bolden, senior. Before that, she had produced her only heifer-calf, Little Red Rose, who got the second prize as a yearling at Dublin in '49, and was sold, first to Sir Hervey Bruce, and by him to Mr. Archdale, of Enniskillen, from whose hands she found her way back to Athelstane, along with her two daughters Eugenie and Florentia. The early prize winnings of Mr. Douglas were not, however, confined to his females; as in 1848, when he first fairly established his name as a winner at the Highland Society, he not only got the second cow prize at the Royal Irish, but won with his Red Rover in the yearling bull class, beating the Honourable Mr. Nugent's celebrated Bamboo. Deception, the winner of the two-year-old bull prize at the English Royal at York that year, was a 100-guinea purchase of his, from Mr. Keevil, but he kept none of his stock; and his first bull of any importance was Trumpeter (10978), from Colonel Cradock's Grey Rose by Roland (2556), who was highly commended both at Windsor and Exeter.

Molecatcher (10537) who was bred by Sir Charles Tempest, and got by Mr. John Booth's Mowbray (7260) from his celebrated Mantalina, also did him some good; but when he determined on having a sale in 1852, he hired Mr. Maynard's famous prize bull Crusade (7938) by Cotherstone (6903), in order to have his cows all served by him. Among them was Rose of Autumn, which he bought at the sale of Mr. La Touche, in

Ireland, into whose possession her dam Pelerine, and Polka, those celebrated Killerby twins by Buckingham (3239) from Mantalina had passed by private contract. Her first calf at Athelstane, was Rose of Summer by Velvet Jacket (10998), which pleased Mr. Douglas so much, that he determined to reserve her along with her half-sister Lady Like by Stars and Stripes (12148), Scottish Blue Bell by Captain Shafto (6833), Marchioness by Belleville, Purity by Crusade, and Second Queen of Trumps by Belleville, which he purchased from Mr. Unthank of Netherscales for 120 guineas, as the nucleus of a second herd. Up to the time of his sale, he had won fifty-nine premiums and eight commendations for cattle, and Rose of Summer and Scottish Blue Bell, who were on more than one occasion first and second to each other, "took up the running" right gaily, in the new era. The latter was eventually sold to Mr. Corwin of Ohio, for 200 gs., as a two-year-old heifer in-calf. Rose of Autumn and Village Belle were parted with at the sale, with leave to exhibit them at the Highland Society, the following week, where they won the prizes in their respective classes; and then this first of the future "Roses" of Athelstane, who was then nursing Rose of Summer, went with Brenda (in calf with Lord Raglan to Crusade) to their new owner, Mr. Stewart of Southwick. Lord Raglan was purchased back by Mr. Douglas, and got, among others, Beau Bill and Lord Stanley (now Mr. Cruickshank's); he was second in Lord Kinnaird's hands last year to Statesman at Aberdeen, and the produce of Rose of Summer, who broke to Crusade, and was served by Heir-at-Law (13005), came back to Athelstane in Rose of Sharon.

With that admiration for the Booth blood, which made him once bid Mr. Richard Booth 500 gs. in vain for Charity, and 550 gs. in later years for Nectarine Blossom, Mr. Douglas went to the Killerby sale in the autumn of '52, and bought Birthright, a grand-daughter of Bracelet, in calf to Hopewell (10332), as well as Officious, a calf by the same bull, and of the same tribe, which he dipped still deeper into by the purchase of Spicey and Ringlet. Warlabey also furnished him with Extasy from Isabella Exquisite, which was re-registered, with Mr. Booth's permission, as Isabella Hopewell. Along with Rose of Sharon, there came a 600-guinea lot, in the shape of Hawthorn Blossom, Heather Bell, and Cherry Queen, from Cherry Blossom, a daughter of Old Cherry, and Imperial Cherry (the dam of Lady Pigot's prize winner Cherry Empress) from Cherry Blossom's daughter Rose of Southwick. It was quite a case of

"Cherry ripe! cherry ripe; chesp I cry,
Full and fair ones—come and buy;"

and the yearnings which had sprung up in Mr. Douglas's mind, as he conned his two favourites in the yard at Edinburgh, fourteen years before, had at last their fulfilment. Three out of the four were by Col. Towneley's Hudibras (10339), an own brother to the famous Alice.

He made his greatest bull hit when he bought Mr. Ambler's Captain Balco (12546) by Balco (9918) from Cowslip by Upstart, and had not only Rose of

Summer's two calves by him, but the Third from the Second Queen of Trumps, which vied with Rose of Athelstane, in sweeping the three National prizes in one year, as Rose of Summer had done before them. Captain Balco, after winning several prizes as a yearling in 1854, was second at the Royal Dublin Show to Master Butterfly, beating, among others, Richard Cœur de Lion (13590), who was third, and Viscount Monck's Cadet (12521) by Crown Prince (10087), who had just beaten him as a yearling at Armagh. The Society of Shakers, who farm 1,000 acres of the finest land in Ohio, bought him for 400 guineas, among the twenty, which they purchased from Mr. Douglas in the course of two years, and his son Sir James the Rose (13290), whose very first calf was Maid of Athelstane from Ringlet, soon took his place, and has for three seasons past been the main prop of the herd. In the same year (1855) that Captain Balco went out, Mr. Douglas bought Hymen (13058) by the Duke of Cambridge (12742) from Bridecake, as a calf at the Springfield Hall sale; but he scarcely used him, as his senior did not leave England till nearly the end of the season, and after winning the County prize with him against bulls of all ages, he sold him for 200 guineas to M. de Trehonnais at the Paris International Show, the following year. This sale, which seemed a good one at the time, was a source of some regret, when the only two calves he left behind him came out in the show yard. The Lamp of Lothian from Isabella Hopewell, beat 132 yearling bulls at the Royal Dublin, besides getting the gold medal as the best bull in the yard, after which he was sold to Mr. Crosby, of Ardfelt Abbey, Tralee, for 250 gs.; and Lady of Athelstane, from Playful, is probably only at the outset of her winning career.

Playful by Fourth Duke of York (10167) introduced the pure Bates blood into the herd, and Cambridge Rose and Britannia by George (12938), a son of Lord George, are combinations of it with Booth's. The Hawthorn Blossom tribe also came from Warlaby, through Venus de Medicis by Harbinger (10297), who goes back to that celebrated dam of Nectarine Blossom, through Bloom. The latest or ninth tribe was added in the spring of this year, when Mr. Douglas determined, be the price what it might, to have four of the Princess tribe at Mr. Troutbeck of Blencowe's sale, and although he was punished pretty severely by Messrs. Saunders and Robinson, he did not cease working the mysterious "go on" telegraph to his commissioner, till Polly Gwynne and her daughters, Prim and Priscilla, along with her bull calf Omega, had all fallen to his nod. Such is the history of the rise and progress of this celebrated Scottish herd. Hitherto it has been quite self-maintaining, and in spite of the sale of from fifteen to twenty each year, it has been kept up to nearly fifty. In future, it is Mr. Douglas's intention to let bulls from his principal cows, and, as a general rule, only to sell his females, but still he is not likely to swerve from his fixed principle of putting a price on every thing.

The fold yard, where the herd is kept, is just across the Cocktail Burn, not more than fifty yards from the house; and two fine fox-hound puppies by Burton Contest,

which are out at walk here for Earl of Wemyss, and lay stretched full length in the sun, were the first symptoms of its animal life. It consists of three lines of red-tiled buildings, with half-a-dozen boxes, which are generally devoted to the cracks, along the common front. Sir James the Rose's box is so completely embedded in the side of the hill, that although his tread is much more delicate, he involuntarily reminded us of a robber chieftain coming forth from his fastness among the flower-clad crags. There can hardly, we think, be two opinions as to his being one of the most bloody-looking and best handling bulls of the day. Still it is, with him, excessive sweetness rather than striking grandeur. There is the stylish and yet beautifully mild head, with its fine tapering muzzle and graceful horn; the well sprung rib, and the beautifully covered huggins, with the tail nicely set on; and were it not that he is slightly slack behind the shoulder, which shows more, now that he is not made up at all, he is pretty nearly perfect. In colour, he is a deep red, with a star on his forehead, and a little white beneath him. He has only been shown twice, first as a bull calf at Rotherham, where he was highly commended, when his companion, Hlawatha, won; and as a two-year-old at the Highland Society's Show, where he got the first prize. His son, Prince Imperial, from Imperial Cherry, came out next. He is a very clever mellow calf, of August 3rd, with a deep bosom and gay fore-hand. In his general outline he resembles Master Butterfly, and the only take off to his head, is a slight uprightness in the horn. He has lately been purchased for a considerable sum by Mr. Wells, a son-in-law of Earl of Wemyss, whose pastures at Redleaf, Kent, had already received sundry other high priced Athelstane emigrants, in the shape of Bride of Lammermoor from Ringlet, Little Fanny a grand-daughter of Mantalina; Rose of the Valley from Rose of Sharon, and Princess Matilda by Sir James the Rose. Cedar of Lebanon, a rich roan bull-calf by Talpa, by Gainford IVth., dam by Booth's Benedict (7828), is not so fashionable as Prince Imperial, but likely to make a fair show bull. In his head he reminds us not a little of Baron Hopewell, and his forehead is quite his best part. There was only one more bull-calf, and that a promising one, Sir Rodolph from Lady Helen by Harbinger (10297), in this quarter; and then, with a passing peep into the condition chests, where the ammunition is duly weighed out on a sliding scale, the Eleusinian mysteries of which it is not for us to penetrate, we strolled away to the floor-boarded box, from which the Third Queen of Trumps swept forth so often to victory.

We found it occupied by Omega, by the Duke of Cambridge (12747) from Polly Gwynne, and Sir Hubert by Sir James the Rose from Bona Fortuna. Omega is a fine rich coloured calf, with rare crops, and stronger and thicker fleshed than its companion, but it lacks the elegance and style of the young knight, who will doubtless be a Royal standard bearer in his day. Lady of Athelstane and Maid of Athelstane then stepped forth, from the two next boxes, and up the road together. The Lady was never shown as a calf, but opened her campaign as a yearling, by being highly commended

at Northallerton; and then swept the first prizes at the Northumberland, Glasgow, Aberdeen, and Londonderry shows. Her quality and fashion are remarkable; and although she is smaller, there is a good deal of the Queen of the May about her. In fact, her open waxy horn and sketchy head, with her wide deep bosom and graceful way of carrying herself, give her an air and character we have seldom seen reached. Maid of Athelstane does not come up to her in these latter points, but as regards thick flesh, evenly laid on throughout, she is by no means her inferior. Sir James has not given her his head, but his closely packed quarter is there, in its entirety. Her first public effort was in a calf class of eighteen, with Queen of the Vale, Faith, Stanley Rose, &c., at Northallerton, and then came her share in the Waterford Challenge Cup. Lady Olivia, a clever sweet-headed half sister to her, is the only representative of Little Red Rose, who was slaughtered last year; and when we had thus exhausted the tenants of "The Row," their seniors, Ringlet and Rose of Sharon, were accommodated with the halters. Ringlet is by Frederick (11489), from Pearly (for whom Mr. Douglas's 100 guinea bid was the last, save Mr. Eastwood's at the Killerby sale), and was purchased from Colonel Towneley at two-and-a-half, for 500 gs. Her first calf, Pearllette, was one of the memorable 1,000 guineas sale of three by the Colonel to the Americans, which once more brought up the price quotations on the great Shorthorn 'Change. Then followed Bride of Lammermoor (the first she had in her present owner's possession), who brought back 300 guineas of her dam's price, and Maid of Athelstane and Queen of Athelstane in succession. As a calf, Ringlet herself won at the North Lancashire and Yorkshire Shows, and was second to Victoria at Rotherham, two years afterwards. Under the Athelstaneford colours, she had to be content with a second to Rose of Athelstane, in the cow class at Glasgow, but she was first last year at Aberdeen. She is a very fine specimen of a high bred animal, and, considering her regular breeding, has kept her shape right well. There is very great length and fine arching of the ribs; but while she is very wide and thick in the back and loins, she is perhaps a trifle light in the twist, and the slight droop of her quarters and a little redundancy there take somewhat from her general appearance. Her head is very neat, and she carries it unusually low as she creeps along in her peculiar style. It is somewhat remarkable that Mr. Douglas should have purchased her, simply because he had lost the female descent from Bracelet through Birthright, who persisted in breeding nothing but bulls; and that she, as if to reward him, should breed nothing but heifers. Rose of Sharon has more of the old fashion about her, than her tribe usually possess. She seems just to lack their high-bred characteristic head, though there is but little fault to be found with the substitute, which is combined with great and rich substance throughout, and a beautiful bosom.

Like the senior pairs, Lady Blanche and Almack's Belle were also great contrasts. The latter has more style, but not the size and thickness of her milk-white

companion (the only one of that colour Sir James the Rose ever got), who bids fair to be a slasher some day.

We moved an adjournment to Sploey's box immediately after, and found her a nicely-got-up cow, on rather a small scale. She went from Killerby to Ireland, and bred two prize bulls, but Mr. Douglas's love of the Bracelet tribe induced him to seek her out; and Beau Bill, the first of her two Athelstaneford calves, was second at Aberdeen. Two smart red Ayrshire heifers, from nurse cows, made a little change before we came to Isabella Hopewell, a cow with all the fine loin and thick flesh for which Warlabby is so renowned. She has bred six bulls consecutively, but at last she has a heifer-calf by her side, in the shape of a very thick and bonnie Isabella Rose, with the mossiest of coats and the sweetest of heads. Eaglet by Booth's War Eagle (15483), from Cambridge Rose, has not so much class about it, but useful and even withal. Venus de Medicis and Rose of Athelstane were out grazing together by the side of the burn. The white, who was once placed before Third Queen of Trumps, in their five jousts, was purchased for 300 gs. from Mr. J. B. Booth, after her first defeat at the Northumberland Meeting. She is by Harbinger from Venus Victrix, and undoubtedly one of the very best that has been bred at Killerby since the Bracelet days; and the only one in the herd which has not had a living calf. She has been in calf once, when she slipped to Sir James the Rose. Her fore-quarter and perfect bosom are what first catch the eye; but as you look along her, you find that the whole is quite in keeping, both in point of flesh and compactness; and the thickness of the loins is in fact quite out of the common. Rose of Athelstane, who has travelled upwards of five thousand miles to shows by land and sea, and won about twenty premiums, has retired from public life. She began unfortunately at Paris in 1856, where she was disqualified with her dam Rose of Summer, as being too fat to breed; and she then fell with the epidemic, which originated in the show-yard. Her dam could only get a mile from the Drem station, and died in a shed near Muirhouses, and she herself just crawled on the other mile-and-a-half to Athelstaneford, and lay more dead than alive for two months. At last she took heart of grace, and was second to Queen of the May at Rotherham, on whom in the next year she turned the tables at Salisbury, though Nectarine Blossom beat her at Chester. Her rumps are now rather redundant, and her hocks might be a little better, but her handling and make are wonderfully good, while that small neatly chiselled head, with the horns lying so gracefully back from the top-knot, will go up in the new entrance hall at Athelstaneford to a certainty.

A box in the inner yard held Queen of Athelstane and Lily of the Valley, two calves very different in their style, and exactly carrying out the peculiar characteristics of their dams, Ringlet and Rose of Sharon. The former, who promises to be lengthier than the Maid Athelstane, has the most blood and style; but the latter is the thicker of the two, and her deep straight twist, and legs well under her, a point which she catches in its integrity from the bull, make her, perhaps, our favourite

among the heifer calves. Ringlet did not nurse her own calf very well, and it is now under the charge of the old Irish cow, who brought up Rose of Athelstane and Sir James the Rose. Prim Gwynne was a great contrast to those little female medallists. She is a very light roan, by a son of Benedict, square and thick, and with good quality. Her "Auld Crummy" head is her most underbred point, and she wants a cross with Sir James the Rose, to give freedom to the narrow forehead and grace to the horn. Imperial Cherry, the dam of Prince Imperial, and also of Imperial Rome, who was sold last year at two months old for 150 gs. to Mr. Longmore, of Rettle, Aberdeenshire, had just lost her roan heifer calf, by a sun stroke. The cow herself is a well-framed one, with a very prominent bosom, and, like all the Cherry tribe, carrying much thick flesh, but, perhaps, a little scooped out behind. Bona Fortuna was quite down on her luck, after two blisters for inflammation of the wind-pipe. Sir David, the elder brother of her Sir Hubert, went across the seas as a little page of honour to Third Queen of Tramps, and shared her fortunes to the death, as they were flung over together in a storm, with six blood and Clydesdale horses and brood-mares, some seventy miles from New Orleans, and the sharks must have feasted in verity that night.

There were no more of the herd at home, so we drove off to the Church field, where we found a few, along with five or six West Lothian cows, who had come at a five-guinea fee to Sir James the Rose, and a fine two-year-old filly from the prize mare. Lily, the dam of Lady Blanche, was among the first lot, in the shape of a massive cow with great substance, and on short legs. There, too, roamed Priscilla Gwynne, who has less of the family countenance, and greater length of frame and finer crops than Prim, but perhaps she is a little on the leg. Ruby, bred by Mr. Maynard of Harlesey, and going back to Booth's blood, was feeding alongside her, with her heifer calf. For the remainder, we had to travel up to the Muirhouses. There we espied Cam-

bridge Rose; not of the famous tribe of that name, but a purchase at the Nafferton sale; Lady Helen, a very snug cow and deep milker, bred by Mr. W. Smith of West Rason, and in direct descent from Mason's renowned Portia by Cato; Lady Flora by May Duke (18329), small but quite a lady of quality; and Polly Gwynne, a level red cow, good looking for a lean one, and with an airy style of forehead, which coveers more of Kirkleavington than Blencowe. Cherry Queen, for whom Mr. Douglas refused 200 gs., we seem to have quite forgotten, as we were naturally more anxious to see Playful, a true-made cow with fine bone, who was bred by Mr. Bell, a nephew of Mr. Bates, almost within a stone-throw of his uncle's. She was never shown, but none have been more successful in breeding. For her Lady of Athelstane, 365 guineas was refused from Mr. Welsh of Trough House, Limerick; and her other three, Jenny, Alma, and Hiawatha (14705), brought 600 gs. to the Athelstaneford exchequer. Jenny got the Purcell Challenge Cup for Mr. Rowland Campion, of Old Town, Shanballymore, two years in succession, and was only thwarted in winning it out, by Rose of Athelstane. Alma was the third prize yearling heifer at the International Paris Show; and Hiawatha, after defeating Col. Townsley's Fred and Sparrow Hawk in a large class at Rotherham, won the best prize as a yearling at the Highland Society, when he had passed for 200 gs., into the hands of Mr. Stirling, of Keir. The above were by Captain Baloo, and Lord George (10439). After losing her this year's heifer-calf by him, from inflammation, Playful is now in calf a second time to Sir James the Rose.

And so we quitted that red knight's dominions, and all his "ladies fayre;" and as we sped home again down the other side of the island, we thought, and with justice, that Sootland's Horn and Hoof interests were in right good keeping, when one herd of only twelve years' standing could hold its own so bravely, against the shrewdest and oldest breeders in the United Kingdom.

H. H. P.

FISH MANURE.

BY CUTHBERT W. JOHNSON, ESQ., F.R.S.

The use of fish as a fertilizer has long been common to very distant countries. And this employment of the refuse matters of the sea fisheries has, in our time, been much stimulated by the introduction of guano.

It was indeed almost certain, when guano became so extensively employed as a manure, to be next considered whether artificial guanoes might not be prepared, and at a price lower than that of Peru. The reflection that guano is the product of myriads of fish-fed birds has naturally led to sundry attempts to employ refuse fish in the preparation of a similar manure, since it appears reasonable to conclude that what the little fisher-birds of

the Chinha Islands produce so abundantly might be successfully imitated on other coasts. Certain manufactories of fish-manure were therefore established, and specimens of the manure they produce have, within the last few months, been reported upon by Professor Anderson (*Trans. High. Soc.*, 1859, p. 73), and we may very usefully to ourselves study the results of his chemical examinations.

The use of refuse fish-manure is common enough near to certain great fishery stations—for instance, in Newfoundland, the portions of the cod fish rejected by the curers (and these, it seems, are equal to 280 tons of refuse out of every 400 tons of codfish) are extensively employed as a manure.

It was in a report to the Secretary of State for the Colonies, that Mr. K. Hamilton, the Governor of Newfoundland, had, some little time since, occasion to remark (*Jour. Roy. Ag. Soc.*, vol. xiv., p. 393), that "in this island the manure universally applied to the soil is fish, consisting of the superabundant herrings and caplins in the process of decomposition, and generally without any earthy admixture, and the heads, bones, and entrails of codfish, after having been decomposed and formed into a compost with clay or peat-bog earth. This manure, adds the Governor, has, on trial and comparison, been found to be much more fertilizing than guano, and when applied to the thin, gravelly, and unpromising soils near St. John's, yields crops of grass and potatoes which cannot be surpassed elsewhere. It is found to be no less powerful when applied to oats; but these, owing to the shortness of the season, and the consequent uncertainty of ripening, are but partially cultivated in Newfoundland."

Attempts had been made, even when this report was made in 1853, to collect, dry, and to render portable these fish remains; and the following analysis, by M. Gautier, of the dried product, is appended to the Governor's report:—

Moisture	1.00
Organic matter (containing 12 per cent. of nitrogen)	80.00
Common salt, carbonate of ammonia, &c.	4.50
Phosphates of lime and magnesia	14.10
Carbonate of lime	0.06
Silica	0.02
Magnesia and loss	0.32

The general process employed in the preparation of this pulverized fish-manure, adds M. Gautier, is stove drying and grinding.

This is naturally attended with some difficulty: the process is not very agreeable; and the proportion of water in the fish to be evaporated very large. Even in the dried codfish, as imported into this country, as Mr. J. B. Lawes has shown (*ibid*, p. 498), there is only 59.26 per cent. of dry matter. He found in the fresh substance:—

Ash	18.66 per cent.
Total dry matter	59.26 "
This last contained:—	
Nitrogen	6.60 "
Fatty matter	0.90 "

If we examine the sprats which are used so extensively in some parts of England as a manure, we obtain similar results—we find a powerful manure yet containing a large proportion of water. This analysis was some time since made by Professor Way (*ibid*, vol. x., p. 610); and in the fresh sprats which he examined, he found—

Water	64.60 per cent.
Oil	19.50 "
Dry nitrogenous matter	15.90 "
Yielding nitrogen	11.53 "
Sprats, in their natural state, then, contain—	
Nitrogen	1.94 per cent.
Ash	2.12 "
The ash of these sprats yield per cent.—	
Phosphoric acid	43.53
Lime	23.57
Magnesia	3.01
Per-oxide of iron	.28
Potash	17.23
Soda	1.19
Common salt	11.19

As a matter of practical importance the Professor drew the farmer's attention to the similarity in composition between some of our cultivated crops and that of sprats. Wheat, for instance, contains 2 per cent. of nitrogen; so does this fish. 100lbs. of wheat require about 1½lbs. of ash, of which about one-half is phosphoric acid, and one-third potash; 100lbs. of sprats contain 2lbs. of ash, of which two-fifths are phosphoric acid, and one-fifth potash.

After these valuable examinations, and with such inducements held out, need we feel surprised that several attempts were made in various fish-refuse-supplying districts to prepare a portable fish-manure? Or should we feel astonished, when we find by whom some of these efforts were directed, at their utter failure? Could better things be hoped for, when ignorance and rascality too often conducted the manufacture? Yet, as Professor Anderson has recently remarked (*Trans. High. Soc.*, 1859, p. 74), the failure of these processes should not lead to the conclusion that it is impossible to convert fish into a dry manure, but should rather direct attention to the contrivance of better processes. "The truth is," continues the Professor, "there has been a great deal of misunderstanding as to what is required to make such substances portable. The makers of manures are rarely familiar with the principles of the art they practise; and being strongly impressed with the importance of rendering manures soluble, have most commonly made treatment with sulphuric acid, in some way or other, a fundamental part of their process; whereas, in this case at least, all that is requisite is to remove the water of the fish, and to reduce the dry residue to a pulverulent state."

To effect this object no complicated apparatus is necessary; all that is required being a stove, or flat drying surface, with flues passing backwards and forwards, or, what is preferable, by means of steam. A thin layer of moist fish, or offal, being laid upon this, might be rapidly dried and

converted into a proper state before putrefaction commenced, and a manure be produced which would have comparatively little smell. As regards its value there is some difficulty in forming an opinion; but some guide may be afforded by reference to the composition of such manures of this kind as have appeared in the market, analyses of several of which have been made. The first analysis given by Professor Anderson are of two specimens made in the east of England; these were found to contain—

	I.	II.
Water	9.77	12.15
Organic matter	53.55	55.27
Phosphates	4.72	6.44
Sulphate of lime	1.63	1.71
Common salt	26.49	22.29
Sand	3.84	2.14

100. 100.

Ammonia 6.20 7.63

These the Professor values—No. 1 at about £4 12s., and No. 2 £5 10s. per ton.

Another specimen of prepared fish-manure, which the Professor believes to have been offered for sale in Liverpool, contained—

Water	7.55
Organic matter	87.45
Phosphates	0.55
Carbonate of lime	0.45
Alkaline salts	2.55
Sand	1.45

100.

Ammonia 7.29

The value about £3 16s. per ton.

The last analysis, given by Dr. Anderson, was of a specimen of fish-manure manufactured on the coast of Portugal, whence it was imported into this country. It is of a totally different nature from the others, sulphuric acid having obviously been used to some extent in the process, and sulphate of lime apparently added as a drier. For this reason its value must be estimated on the same principle as that of superphosphate, which indeed it somewhat resembles in composition. The Portuguese specimen contained—

Water	14.04
Organic matter	27.77
Biphosphate of lime, (equivalent to 7 per cent. of bone earth made soluble)	4.48
Insoluble phosphates	1.60
Sulphate of lime	36.17
Alkaline salts	6.14
Sand	9.80

100.

Ammonia 2.10

The value of this specimen is about £3 16s. per ton,

“But,” concludes the Professor, “fish-manures have usually been offered for sale at from £8 to £9 per ton; and at that price there is obviously no inducement to buy them.”

These facts will be useful to both the preparers and purchasers of fish-manure. It is a question, like all those relating purely to animal fertilizers, or such as are produced by animals feeding entirely on animal substances, of the highest interest to the agriculturist.

In a subsequent page to that from which I have already quoted, Dr. Anderson gives the analysis of a manure from an animal feeding on animal food—that of the insect-feeding bats, which abound in the caves of some of the West India Islands. This manure is in the form of an exceedingly light and bulky brown powder, consisting, in part, of small crystalline scales, and almost devoid of smell. It was found to contain:—

Water	13.66
Organic matter and ammoniacal salts	64.12
Phosphates	15.12
Carbonate of lime	6.28
Sand	1.40

100.58

Ammonia 9.55

This is worth about £7 per ton, and, from its value, will probably soon attract the attention of the West Indian landowners.

There is, indeed, every reason to believe that much more might be done in the collection of the dung of animals fed upon animal food. For instance, in those great Parisian poultry yards, where the hens (in order to induce a continuous laying of eggs) are fed with the carrion, refuse fish, &c., of Paris, the dung of the tens of thousands of birds there kept must not only be large in quantity, but rich in nitrogenous matters. Vauquelin long since examined the egg-shells and excreta of a hen during the ten days she was fed upon oats. He found in these, in grains:—

In 4 egg-shells. In excreta.

Carbonate of lime	453	58
Phosphate of lime	98	175
Silica		185

M. Girardin has shown that the dried dung of poultry contains 59.8 per cent. of organic matter, and 40.2 per cent. of ash, or mineral substances; but neither of these chemists directed their attention to the amount of nitrogen it contained.

Researches like these are of importance to agriculture in more ways than one. They not only seem to tend to the supply of an increased amount of a powerfully home-made manure, but they may

lead perhaps to another useful enquiry, as to the system on which the great French poultry-yards are conducted, and whether similar yards might not be profitably established in this country. It is certain that the poultry and eggs of our gallant continental neighbours are not produced, as ours commonly are, in farm-yards. The French poultry are kept chiefly in enclosed places, and fed upon food purchased expressly for their use. Yet still they are successfully kept in such large quantities as seem marvellous to us, who are wont to regard poultry as anything but profitable live stock, and, frequently, as objects of suspicion to the farmer. Then, again, with regard to fish-refuse, another evenly nationally important question arises, since anything that conduces to the profit of the fisheries promotes the prosperity of the sailors of England,

and increases the proportion of the community who seek their livelihood on the great waters. If we merely regard it in an agricultural point of view, the fisheries are even now of no small importance, since, by them, and almost by the fisherman only, is restored to the land a portion of those enormous amounts of organic and mineral substances, which through every stream and every river are so steadily carried from the land to the sea; for in all these waters are found animal, vegetable, and mineral substances in some proportion or other. Now, it is only the fisherman who brings anything back from the deep waters on to the land; and these fishermen are still working out the same great object wherever we find them, either amid the ice of North American seas, or around the cloudless and rainless islands of the Pacific.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

MEETING AT WARWICK.

REPORT ON THE LIVE STOCK.

SHORTHORNS.

It is now eighty-two years since the birth of Hubback, the great progenitor of "the Improved Shorthorns." From him descended Favourite (sire of the Durham Ox), Comet, and other bulls, the gr. gr. gr. gr. gr. gr. gr. grandsires of this favourite class of cattle, which we venture to assert has gone on to improve in many respects from that day to this; not that we can point to individual specimens of the breed as exceeding those of eighty years since, but we point to the general improvement of the breed of shorthorns, as manifested throughout the country. Nevertheless, we might refer to those specimens of almost unexampled merit which the Royal Agricultural Society has brought before the public. Take the Oxford prize bull, the Duke of Northumberland, bred by Mr. T. Bates, and the other animals shown there by Mr. Bates, and follow up the Society's annual shows. Who will not remember splendid specimens of bulls, cows, and heifers? the names of their breeders being known to all, and particularly familiar to all shorthorn breeders—we mean such deserving most honourable mention, as Topham, Jacques, Forrest, John Booth, Rd. Booth, his Grace of Devonshire, Banks Stanhope, Viscount Hill, Parkinson, Wm. Smith, Marquis of Exeter, Ambler, Towneley, Lord Berners, Stratton, Henry Smith, Fletcher, Fawkes, Grenfell, Earl Ducie, Marjoribanks, Maynard, Kirkham, Tanqueray, Earl Spencer, Sir C. Knightley, Sir C. Tempest, and very many others, noblemen and gentlemen, who have done much to improve and establish the breed; and we have now such men as Sanday, Torr, Douglas, Hall, Jonas Webb, Crisp, Sterling, Gunter, Wetherell, Lord Feversham, Colonel Pennant, with many of the above, still ardently engaged in upholding and improving the breed—names which we mention just as they occur to us in writing: while our present catalogue gives us other aspirants' names, all bent upon achieving fame in the breed and improvement of shorthorns. Here we have in rotation the names of Grundy, Forrest, Price, Bradburne, Middleton, Slye, Watson, Horwood, Miss E. Barroby, Mrs. Farmer, Lane, Noakes, Tod, Lord Willoughby de Broke, Almond,

Bland, Wm. Farmer, Sturgeon, Clinch, Viscount Dillon, Ivens, Wodehouse, Armstrong, Cartwright, Rich, Blathwayte, Lowndes, Robinson, Lynn, Hewer, Woodward, Huckvale, Lord Londesborough, Sturgeon, Popham, Noel Hill, Wells, Endall, Holland, Harrison, Weightman, Eastwood, Heaward, Duncombe, Fowler, Bowly, the College at Cirencester, Cox, Earl of Radnor—names which for the most part would not have been brought before us except under the high auspices of the Royal Agricultural Society; and nearly all of whom whom have won bright laurels for themselves, if not altogether successful in carrying off the few coveted prizes, for certainly the show of shorthorns, taken collectively, is the best we ever saw. Individual specimens we have frequently seen equal, if not superior, to individuals here, but never such large and such well-filled classes. We might fill columns with critical remarks upon their various excellencies, and then far fail of their due. We trust our readers will therefore excuse the feeble report we have to offer upon these superb classes; it is impossible to do them ample justice.

We subjoin a table, by which it will be seen that their numbers were far in excess of other years—even the formal Windsor meeting.

TABLE OF CATTLE CLASSES.

PLACE OF MEETING.		Shorthorn.	Hereford.	Devons.	Other Breeds.	Extra Stock.	Total.
Northampton.....	1817	92	36	28	10	9	174
York,	1848	105	39	30	8	13	186
Norwich,	1849	95	38	48	36	4	210
Exeter,	1850	68	25	124	16	5	236
Windsor,	1851	176	41	74	94	—	385
Lewes,	1852	64	29	38	92	—	223
Gloucester,	1853	75	43	45	20	—	193
Lincoln,	1854	111	29	41	17	—	198
Carlisle,	1855	98	39	23	—	—	163
Obelmsford,	1856	78	40	55	26	19†	217
Salisbury,	1857	109	57	60	23	—	258
Chester,	1858	136	69	37	23	5‡	308
Warwick,	1859	261	94	66	48	—	469

* Including Special Prize List. † Foreign. ‡ Dairy and Welsh.

Here we have, then, in the cattle classes alone 438 animals to look over and criticise, besides horses, sheep, and pigs. We purposed, as usual, taking a somewhat consecutive view of the different classes; but this we very soon found to be impossible, and we were, from sheer necessity, compelled to look them over just as any other casual visitor is obliged to do.

We will now proceed, as best we may, to give our report of the shorthorn classes. Take

CLASS I.—BULLS calved on or before the 1st of July, 1857, and not exceeding six years old,

No. 10, Mr. John H. Bradburne's roan bull Radford, the winner of the first prize. He is, as a whole, a well-proportioned animal of great merit, but he reminds us more of the portly alderman than the well filled-out gentleman. There is something common about him—no true nobility of character. Eyes small, head fair; muzzle, face, horns, and general looks good and quiet; short, thick neck, breast-end good; full shoulder; chine rather defective, and sets badly to shoulder; ribs not sufficiently springing near his chine, causing his sides to be too flat; girth not very great; capital loin, and back very level; good flank; rump not long; hips and first rib too far apart; twist, tuts, and thighs good. We have seen much better first-prize bulls; but this is a highly creditable one, and does Mr. Lythall honour as a breeder. This bull took the first prize at Chester, as the best bull for "dairy purposes." He is a rather short, thick, compact bull, standing too low, but well qualified, from his sappy qualities, to aid in "dairy purposes." The Hon. Col. Pennant, M.P., takes the second prize with No. 15, our old acquaintance Marmaduke, certainly a more noble-looking animal. But he has laid on his flesh unevenly, "patchy"; colour very fine; fat breast-end, full and good; shoulders full, but rather coarse; very pleasant looks; stands a majestic height, and of good length; his thighs and twist are thin, comparatively. No. 28, the property of Mr. Gooch, takes the third prize. He possesses some remarkably good points, and has altogether a superior contour; and his back is very level and good. No. 3, Viscount Hill's bull, pleased us much. He took the first prize, as a yearling, at Chester. He has a good proportionate frame, of good length, and admirably filled out; perhaps a little too "patchy." He received a high commendation most deservedly. No. 20, Mr. J. T. Noakes' Prince Alfred the 2nd, also receives a high commendation, with a very good animal. Lord Faversham's Prince Imperial, Miss E. Barroby's Marc Antony, Mr. Tod's Young Heir-at-Law, Sir C. Tempest's Emperor Napoleon, and Mr. Jonas Webb's Sir Charles, all received commendations. The latter we more particularly noticed, as he struck us as possessing a superb hind-quarter. His back, loin, first rib, rump, and tuts are admirable; his thighs deep, and flank capital; breast full, and girth good, but his fore-chine and hand are defective; colour, eyes, and general appearance very fine. No. 26, Colonel Towneley's bull, caught our eye on passing. He has a beautiful mild eye, and long good rump. This was a large, good class, and the judges deserve great credit for their discrimination.

CLASS II.—BULLS calved since 1st July, 1857, and more than one year old.

In this class No. 54, Colonel Towneley's Royal Butterfly, takes first prize, and without dispute: indeed, we do not hesitate to assert that he stands at the head of the classes of bulls for this year, and we might say for many a year. We have a full recollection of his brother Master Butterfly, whom in many points he resembles, but we think in substance and constitutional frame he excels him. Master Butterfly was always of somewhat delicate form, more slender than robust.

Royal Butterfly has more good points, and more of profitable character about him, at the same time fully retaining the excellent qualities of his far-famed brother. We shall fail to describe him, but we will try. He has a fine muzzle, beautiful eyes, kind waxy horns, and mild placid countenance; he stands nobly, and is of majestic appearance, and of truly symmetrical frame, his chest is broad and full, neck good, and nicely framed to his shoulders, which are full and good; his depth through his chest and girth is great, but in this point he reminds one of Master Butterfly in the peculiarity of form, his lengthened plaits detracting a little from the true girth; his ribs are nicely springing, good front rib, and exceedingly good loins, and his depth from hip to flank great, and both good; rump nice length and full, thighs good, tuts all right, but his twist rather scant; altogether he has a very compact cylindrical frame, of sufficient length, and his colour is a beautiful roan. He is nearly a perfect specimen of a shorthorn bull, and we congratulate his owner in resisting the tempting offer of twelve hundred guineas for him. No. 43, Mr. Ambler's Prince Talleyrand, is a beautiful specimen of a true shorthorn: his general form, his admirable straight, level, broad back, and uniform proportions are worthy of all praise. We regret we cannot stay to give a longer outline of so good an animal. He takes second prize. No. 51, Mr. Lynn's Great Comet, takes third prize. He possesses a remarkably level back, good thighs and thin flank, hips rather narrow, and rather common general contour.

CLASS III.—BULL CALVES above six and under twelve months old.

No. 70, Mr. Fletcher's Prince of Warwick, takes first prize; Mr. R. Stratton's No. 62, Magician, the second prize. We have not much to remark particularly, but we must observe that seldom has a better class been exhibited. We had before us thirty-two young bulls, all of great merit: to single out individual specimens would almost be invidious, but as independent reporters we could say, that besides the two named, we were much pleased with No. 89, Mr. Booth's Knight of Windsor; No. 90, Colonel Towneley's Precursor; No. 91, Colonel Towneley's Bow Bearer; No. 76, Mr. Ambler's Royal Oak; No. 77, Mr. Ambler's Prince Alfred; No. 73, Mr. Wells's Prince Imperial; and No. 63, Mr. Stratton's Mars.

CLASS IV.—COWS in milk or in calf.

This was again an exceedingly good class, quite equal to any former years as a whole, but not individual specimens. It is impossible to do ample justice to such a class by any remarks we may make: we have already trespassed too much upon our space and our reader's patience in our remarks upon the class of bulls, and must now try a different course. Mr. Stratton takes the first prize with No. 94, Matchless the 4th; her only slight defects are in her neck and flanks: in most respects she is really matchless. No. 112, Mr. Eastwood's Rosette, takes second prize: she is proportionate, with very massive hips, and capital breast, rump not good, and tuts short. Mr. Todd's No. 109, Volga, takes third prize: she is of great depth and uniform frame, with heavy tuts and wide hips, and large rumps. No. 98, Mr. Douglas's Rose of Sharon, has extra plaits and heavy tuts; his No. 99, Ringlet, has a beautiful top. No. 101, Mr. Langston's Meretrix, has also a very beautiful top. No. 102, Colonel Pennant's Moss Rose, is quite a first-class cow, as is also No. 100, Mr. Hutt's Favourite. No. 106, Mr. Armstrong's Virginia, well deserves honourable mention, as does also No. 116, Mr. Jonas Webb's Lady Jane. Nos. 110 and 111, Mr. Booth's Chastity and Sister to Windsor ought not to be missed, but we must stop.

CLASS V.—HEIFERS in calf or in milk, not exceeding three years old.

Another exceedingly good class; Colonel Towneley is again the winner of the first prize, with his very beautiful heifer Fidelity. She is quite in character with the best of the Colonel's breed; his No. 131 third prize heifer Pearl, and his No. 132 Emma, are both nearly her equals. We have seldom seen three such beautiful heifers belonging to one breeder so true to character; perhaps we may be pardoned for just hinting that a little improvement in chine, neck, and neck-vein would render them all but perfect. No. 123, Mr. Fowler's Daisy takes second prize. She possesses a very level frame, nice breast end, even sides, and deep, horns rather awkward. Nos. 124 and 125, Captain Gunter's Moss Rose and Fair Maid of Wetherby, are two superb heifers. No. 127, Mr. Booth's Queen of the Isles, is a capital full-formed heifer, on short legs. No. 133, Sir C. Tempest's Surplice, is a beautiful animal. No. 122, Mr. Douglas's Lady of Athelstane, is exceeding good, as is also No. 128, Mr. Bowly's Songstress; but we must not enumerate all, much as they deserve it.

CLASS VI.—YEARLING HEIFERS.

This is a very attractive and beautiful class; we can only enumerate: Mr. Grundy takes first prize with No. 139, Faith, and a high commendation with No. 138, Victoria Regina; Mr. Douglas takes second prize with Maid of Athelstane; Captain Gunter takes third prize with Duchess 77; Mr. Stratton's Matchless 6th, and Mr. Hill's Orange Preserver, Colonel Towneley's Precious Stone, and Mr. Jonas Webb's Duchess de Maille take high commendation, and Mr. Stratton again takes a commendation with Bee. We have here 29 most beautiful and symmetrical heifers, each of which is worthy of commendation. We have been thus particular over our favourite shorthorn classes, and must now hasten on, once more repeating that we have never before seen such a splendid collection of shorthorns; even the classes for special prizes, including the pairs of cows which we have not yet alluded to, is worthy of a special report. Mr. Ambler's bull Grand Turk is found here, as are also his two heifers, which he sold for 250 guineas, for Australia—as a pair not excelled in the yard. Mr. Langston's cows are a pair of truly good and large-framed shorthorns, as are also Colonel Pennant's pair and Mr. Lythall's pair. It is a first-rate class. The pairs of heifers is a very superior class: in it are found two pretty little Bretonne heifers. The yearling heifer class is equally good. Although these classes are open to all breeds, every prize and every commendation are appropriated by the shorthorns. This was a most attractive department of the show, and we trust will be kept up.

HEREFORDS.

We have said that it is 82 years since the birth of the great progenitor of the Improved Shorthorns. Where we are to look, or how far we are to go back for any grand progenitors of the Herefords, no one knows. That they have been progressively improved like their rivals the Shorthorns, is unquestionable. It is said they were as a breed introduced from Flanders about 200 years since: if so, they claim, we think, precedence of their rivals. If they are not as a breed quite so large in frame and quick of growth, they excel them in breadth of chine, fulness of chest, and rotundity of shape, and probably in the quality of flesh. Many also attain a large size, but it is not general. The breeders of this class of animals deserve greater credit than the Shorthorn breeder, because they have to secure uniformity of colour (i. e., red with white backs and faces), as well as the correct

proportions of the animal. We should have liked to enumerate many conspicuous names of breeders who have won high honours, but space for this time forbids; nor can we attempt any descriptive account of individual specimens, they are so numerous, amounting to 94 animals of extraordinary merit, all of which are well worthy some favourable notice. Mr. Naylor's prize bull Adjutant in the second class pleased us greatly, but we thought him too short in frame though very full, and of immense girth. We hear he is sold for 350 guineas, for Australia. Mr. Perry's Salisbury, No. 175, second prize bull, has a very level fine frame, and his general appearance very attractive. Mr. Edward's No. 177, Leominster, third prize bull, has, we think, a still better frame, but not so large and handsome. In this class are 20 handsome animals, but not one commendation is bestowed. In the first class, which is less numerous, they fare much better: only eleven are shown. Mr. Hill's Claret receives the first prize—a very thick and deeply formed bull of immense girth, his back a little defective, and rump and tuts short; he is very handsome. Lord Berwick's second prize bull Severn is a very fine specimen of the breed, large and good, of noble mien, and decidedly handsome. No. 166, Mr. Williams' third prize bull, has a deep full frame, level back, large and full breast and shoulders, body too large. This is a good class. His Royal Highness the Prince Consort receives a commendation with No. 164, Windsor, and Mr. Naylor with No. 171, Lucknow. In the Bull-calf class His Royal Highness takes first prize with a superb little animal, of compact cylindrical form, of great beauty. But we must refrain; the class is an exceedingly good one. The Cow and Heifer classes are exceedingly good. Mr. Rea's Bella is a superb cow, of good size; her sides and plaits are full, and hips good and proportionate throughout. Lord Berwick's Beauty is a beauty, "and no mistake." Mr. Keene's Beauty is a famous heavy cow. In the Heifer class Mr. Rea's Czarina takes first prize: she is deep and good in frame. Lord Berwick's Ada stands next, and Mr. Naylor's Laura third. In the Yearling Heifer class many good and promising animals are shown, which it would be a waste of time to criticise minutely. They almost all appear to be made in one mould, not having yet had time to develop unequal proportions. The class is a very commendable one, but only two received the honour.

DEVONS.

These are generally of what are called the North Devon cattle, and are the handsomest and most symmetrical of any of the cattle classes, and their flesh is of very fine quality. They fatten upon inferior pasturage, for which their small size and propensity to fatten fully qualify them. Their colour is generally a light red. Their cows are remarkable for giving rich milk, and Devonshire cream is universally known. They are very hardy, and the breed dates from time immemorial. The number shown at Warwick is larger than usual, and certainly of equal beauty and quality; but we did not think the classes more interesting than in former years. The exceedingly good quality of flesh and perfect symmetry of form are always pleasing to behold, and their uniformity of colour adds much to their appearance as a class. We could not avoid the impression that the breed must be very much circumscribed, as the names of the exhibitors appeared quite familiar to us as the names of exhibitors of former years. His Royal Highness the Prince Consort and one or two others appeared as new, but such names as the following (and none are more honourable or deserving of their county) have been continually before us as breeders of Devons, i. e.: Messrs. John and James Quartly, Turner, Fouracre, Hole, Farthing, Davey, Overman, Pope, Umbers,

Merson; and we think it is to them, and a few others that we are indebted for the perfection and perpetuation of this very valuable breed. Mr. Merson's cow *Lovely* is a beautiful specimen of the breed. Mr. Pope's *Fancy the 3rd* is a very compact and beautifully proportioned heifer, but she is excelled by Mr. Turner's *Vaudine*, a more lengthy animal, of complete form and beauty. Mr. James *Quartly's The Gem* is yet farther the gem of the class: she has a surprising neck-vein and fore-quarter, and is a great beauty. In the Yearling Heifer class, Mr. Jno. *Quartly* is successful with a most compactly formed animal of great symmetry and beauty. His Royal Highness the Prince Consort is again successful in carrying the second prize with *Lovella*, an almost perfect animal excepting her thighs, which are light. Mr. *Milders's* heifer has a good fore-quarter. The bulls as a whole are highly commendable, but we did not notice any remarkable animals amongst them as deserving our special comment.

OTHER ESTABLISHED BREEDS.

This is a very comprehensive class, including all "established breeds," i. e., Suffolks or Norfolks, Sussex, Channel Islands, Scotch in all their varieties of Angus, West Highlanders, Ayrshire, Kyloes, Galloways, &c., &c. Then again we have Long-horns, Shropshires, Teeswaters, Lincolns, Holderness, Farnills, &c., &c. Then we have Welsh in variety, as Pembrokes, Glamorgans, Angleseas, Cardigans, &c., &c. And we have the Irish in considerable variety, the breed of Kerry and the long-horn Irish being the principal. We have named the above breeds as included in this class, and we inquire if there has been any great progress made in breeding half-breeds or cross-breeds as with sheep? If they answer so well with the fleecy tribe, why may we not expect a like benefit with the tribe bovine? We know the form of the best Scot has been made to amalgamate with the Shorthorn, to the manifest improvement of the latter. The large Angus would improve the Welsh. Colonel Pennant's large well-formed Welsh bull pleased us much. The Earl of Southesk's polled Angus is a capital bull, of deep frame, and excellent quality; and his Royal Highness's Alderney is good, and well worthy his commendation. Mr. Turville's young bull pleased us: he is very pretty. Of cows and heifers the Earl of Southesk shows a good Angus, and Lord Sondes a good Norfolk heifer, and they stand in the same respective positions in the yearling classes. These classes were not well competed. In the long-horned special prize classes we have some very good cattle: Mr. Holland's first prize bull is a capital animal, of large size, and well proportioned frame; Mr. Taverner's Admiral is a superior bull, stands high, has a long well-formed frame, and of fine proportions. Mr. Hawkes' Wroxall deserves honourable mention. The Cow class or Pairs of Cows was admirably filled: Colonel Inge's pair attracted much attention; they are very excellent animals, large, and finely formed. Mr. Godfrey's are exceedingly good and profitable-looking cows. Mr. Twycross showed two pairs of good cows well worthy the commendations they received.

SHEEP.

Since the establishment of the Royal Agricultural Society much has been done through its instrumentality. Visitors from all parts of the three kingdoms have been yearly brought together; the various specimens of the established breeds in Leicesters, Southdowns, and Longwools, underwent close examination, and ideas new and forcible took possession of men's minds; the splendid animals shown excited laudable and spirited emulation in thousands; men returned home to ponder and plan. From this beginning we have now many admirable

breeds of sheep of other kinds, i. e., Hampshire Downs, Shropshire Downs, Improved Oxfords, Improved Longwools, Improved Leicesters, Improved Cotswolds; then we have Improved Cheviots, Improved Exmoors, Improved Forest and Mountain Sheep. All are aiming at advancement. The pure Southdown alone have fully sustained their popularity; the Leicesters retain their purity in some flocks, but as a distinct breed they are certainly losing caste. The prevailing taste throughout the country is to breed the various sorts called Half-breeds, and many visitors attend to discover from which class they can best attain this object; hence the Cotswolds and Longwools have become the favourites. We distinguish the Cotswolds from the Longwools because we know them to be a distinct breed: the latter are chiefly found in Lincolnshire and the counties bordering it. The strife amongst the breeders of sheep for the pre-eminence has been long and most arduous, and those breeders who stand foremost are fully entitled to all the honours they win. It is marvellous to what perfection some breeders have brought their flocks. Take Mr. Jonas Webb: the list of prizes obtained by him would more than fill a newspaper twice over. The Duke of Richmond's list would be, perhaps, still larger, as he is an exhibitor of Downs fatted, as well as for breeding purposes; Mr. Elman's, again, would be a very long catalogue; Mr. Grantham's would equal it; Mr. Rigden is coming on apace. Then take, again, Lord Walsingham, a comparatively recent exhibitor. The late Mr. H. Overman was also a successful exhibitor, as also was Mr. Luger. Mr. Sainsbury, Mr. Hayward, Mr. Pope, and many others, are now contending most laudably for this enviable pre-eminence.

SHROPSHIRE DOWNS.

Mr. Adney, a famous breeder of Shropshire Downs, has generally a first-class letting; his flock was founded upwards of 40 years ago, upon the old black or grey-faced sheep of the county, taking care to keep to the dark-faced character and fine and good wools. His first regular sales and lettings commenced in 1851, at good prices; and for the past four years his sale and letting have averaged about £18 each, many of his best varying from 25 guineas to 84 guineas each. Mr. E. Holland's flock, we understand, quite equals this in his sales and lettings. These instances speak highly for the Shropshire Down breed. We should have been pleased to have given an example of one or two Leicester-breed sales and lettings of rams, but we have been disappointed in the receipt. Mr. Sanday's last year's letting is before us; the average of the 54 sheep let are as follows:—25 shearings, £22 8s.; 15 two-shear, £35 17s. 6d. each; 10 three-shears, £23 2s. each; four and five shears, £15 15s. each; or, about £26 each, a very high price, and showing the favour in which the breed is held by its promoters. These few instances show how each breed upholds its favour and character in the different districts of our little country.

We continue our tabular form of the entries of pens of sheep at the different meetings, commencing with the Lewes meeting in 1852, and in accordance with the prize sheet, with the view of showing the state and progress of our sheep classes from year to year:

Place of Meeting.	Leicesters.	South Down.	Long Wools.	Short Wools.	Other Breeds.	Total
Lewes..... 1852	55	88	15	..	25	185
Gloucester.. 1853	61	95	80	..	53	292
Lincoln 1854	102	67	96	..	38	303
Carlisle..... 1855	119	51	63	..	97	330
Chelmsford.. 1856	60	105	54	..	49	319
Salisbury... 1857	66	118	94	128	37	443
Chester..... 1858	70	53	77	110	46	356
Warwick.... 1859	92	58	72	192	77	491

LEICESTERS.

It will be seen from our table that this class was well supported, and we have to report that many excellent sheep were exhibited, Mr. Sanday and Mr. Pawlett, as usual, taking the principal prizes, Lieut.-Colonel Inge stepping in with some good ewes for that prize. Mr. Sanday takes all the prizes in the Shearling Ram class—one prize, one high commendation, and a commendation in the Aged Ram class, and the first and second prizes in the Shearling Ewe class. His shearling rams denote a little stronger fleece and larger frame, without detracting from their quality and symmetry, certainly in our estimation a valuable acquisition. Mr. Pawlett sticks close by his original form and beauty. Mr. Sanday's older sheep, No. 519, is a first-class animal; he has a pleasant countenance, good head, capital neck, chine full, plaits good and heavy, level fat back, with good rump, thighs, and fleece, and all in good form. Mr. Pawlett's No. 507 is a capital specimen of the breed. He is all right, except in his "legs of mutton;" but his fat back, good rump, and superb plaits are fully redeeming; No. 508 has the same defect in thighs, and his rump is rather narrow, but his back and plaits first-rate. How is this? Mr. Pawlett often takes precedence of Mr. Sanday in the older sheep class, while Mr. Sanday invariably takes the lead in the shearling and ewe classes. Mr. Banford shows specimens of his pure breed—we think, more creditable than usual, but we don't commend their general frames. Mr. Borton, Mr. Creswell, Mr. Wiley, Mr. Umbers, and other breeders show some superior sheep, but none received commendations except as above.

SOUTHDOWNS.

We have already noticed this popular breed. We shall at once go to the classes. We always like to criticise them; but such was their number, and the crowding of company to view them, that we were almost compelled to relinquish the pleasing task. All we could do was to take a note or two of a few leading sheep. The Duke of Richmond's prize shearling demanded an examination, as having discomfited Mr. Jonas Webb's flock. No. 569 is a good sheep, having a pleasing contour, but not altogether free from faults. His rump and thighs are good; his back level, broad, and well covered; his sides and plaits good. He possesses good looks and a fair fleece; frame rather long. We compared him with Mr. Webb's No. 590, although a sheep that did not carry a commendation. He has a beautiful countenance; a rather short thick neck, nicely formed to chine; and shoulder giving out a fine full plait; capital girth and out shoulder. He has a level fat back, and is a fine outline of a Southdown, having character and nobility of appearance; stands high, and in capital form, with good looks and plenty of wool. No. 592 is a good shearling, compact in form, and of much substance; better chine and girth; rump and back good. No. 593 has a deep, well-made frame of excellent proportions, and much wool. We have never seen Mr. Webb's lots in better character. Indeed, we have always complained of the tendency of the Southdown breed to undue corpulency, owing to the first rib and hip being too wide apart, and therefore letting down the body. Mr. Webb has this year corrected this. Mr. Rigden's lot shows well. He receives three prizes and three commendations with eight pens of sheep. The Duke of Richmond's show in high character and condition. He deservedly receives three first prizes, one second prize, and two high commendations, with eight pens of sheep. Lord Walsingham's lot are good, but do not take with the judges. The Duke of Beaufort's ewes are in good character, as are also Sir G. Throgmorton's. These classes were well sustained.

LONG-WOOLLED SHEEP.

These classes showed in good character and number;

their tremendous frames and well-washed wool attracting much attention. Some surprising animals were exhibited; but the extent of the show forbade our individual criticism. Mr. Robert Garne takes precedence this year, having taken three prizes, one high commendation, and one commendation, with nine sheep. Messrs. W. Lane, George Fletcher, T. B. Browne, Handy, Porter, Gillett Cother, and others showed some exceedingly good sheep. We longed for time and opportunity to examine them closely. We can say no more than that it was a splendid show of Cotswolds.

SHORT-WOOLLED SHEEP NOT SOUTH-DOWNS.

In this class was included almost every breed of short-woolled sheep. We found Oxfordshire Downs, West Country Down, pure Shropshire down, Sussex and Cotswold, improved Hampshire Downs, Exmoors, Bretonne, Merino, brown-faced Shropshires. The whole of these classes formed a show sufficient to interest the whole company. It comprised 226 animals of great merit. Mr. W. Humphrey takes precedence in these classes; he has first, second, and third prizes, and a high commendation in the Shearling class, with six West Country Downs; the second prize in the Aged Ram class, and a high commendation; and he takes the first prize in the Shearling Ewe class, and a high commendation. Mr. Druce, of Kynsham, takes first prize in the Aged Ram class very creditably; we name this, because we have long witnessed his attempts to secure a new breed of good character. Messrs. Adney, C. Howard, J. Druce, John Bryan, the Duke of Marlborough, Mr. Gillett, Byrd, Stephen King, W. B. Canning, F. E. Miller, J. and E. Crane, J. W. Brown, M. F. Bennett, and John Moore, all received honours in this very extensive class, which was, very properly, generally commended.

SPECIAL PRIZES.

SHROPSHIRE SHEEP.

This is again a very extensive and superior class, comprising 126 specimens of this exceedingly profitable breed. The honours here are admirably distributed over the district, proving its general applicability, and that good animals are found everywhere throughout its boundaries. We took more extended notes of these classes, and we pronounce them admirable specimens of a profitable breed; but we cannot stay to particularize. Messrs. Coxon, Sheldon, Horley, Mrs. Baker, Messrs. J. and E. Crane, Mr. Adney, and Mr. Holland, divide the prizes pretty equally; and Messrs. Crane, Coxon, Mansell, Bowen, Morley, Thacker, the Earl of Dartmouth, and Mr. Horley, receive the other honours; the class being generally commended.

PIGS,

BOTH IN THE GENERAL AND SPECIAL CLASSES.

We also continue our tabular form of the number of entries of pigs, as shown at every meeting, commencing with Lewes in 1852, under the two respective denominations, as the Large breed and the Small breed.

Place of Meeting.		Large Breed.	Small Breed.	Total.
Lewes,	1852	48	96	144
Gloucester,	1853	38	108	146
Lincoln	1854	45	92	137
Carlisle	1855	29	55	84
Chelmsford	1856	35	69	104
Salisbury	1857	65	121	186
Chester	1858	53	77	142
Warwick *	1859	47	59	106

* Special prizes for Berkshires, 36 pens; other breeds 10 pens; total, 46 pens.

These presented a large and interesting show. About 216 fine specimens of the porcine race were exhibited in all their varieties, totally eclipsing the two acknowledged classes of the Large and the Small breed. His Royal Highness the Prince Consort wins a first prize in the small breed class of boars, and also with a pen of sows. Sir George Throgmorton, and Messrs. Harrison, Wood-

cock, Gavins, Holdway, Wainman, Crisp, Turner, Morland, Saddler, and Watson, are winners of prizes in the general classes, and in the Berkshire classes Messrs. Hewer, Bowly, Sadler, Smith, Wainman, Col. Pennant, and Mr. Watson are the winners. The classes are exceedingly good, and receive the commendations of the judges.

"NO POLITICS."

Only a few years back an agricultural meeting was rather a hazardous thing to get up. It was so difficult to keep out of a row. It was such a nice matter to say something that should give offence to nobody, and it was still by no means easy to determine what this something should be. In the very height of an agitation that must affect the farmer more than any other, the farmers when they met generally amongst themselves were assumed to have no feeling or voice in the matter. There was a standing rule as to "no politics," and it is extraordinary to observe the extent to which this was insisted on. If a man ventured to claim some kind of recognition for the rights of home industry he was certain to be interrupted with a cry of "No politics." If, on the other hand, he dared to think that commerce and trade could not be too unfettered in their action, he was at once roared down with "No politics." The maintenance of the poor, the pressure of certain taxes, the relative duties of certain classes, all came to be more or less tabooed by the same arbitrary enactment, until at length, when a country gentleman did get up to speak, his inward colloquy with himself was, "What ever am I to talk about?"

The teterrima causa of all this caution has now for some time been removed, and with it much of that stringency which, perhaps necessarily, marked the period of our transition. Farmers now speak almost as freely as other people of any subject that may promise to affect their interests. Not that they discuss less earnestly their own immediate business. On the contrary, the points of agriculture were never spoken to so readily, so fully, or so practically as they are just at present. At the same time, if there be anything indirectly bearing upon the cause, they are almost sure to "out with it." Whether it be the war, the malt-tax, or the Board of Trade, we have the agriculturists' opinion upon what they are doing. The chairman has a little more licence to give and take, and this is rarely abused. Now, for many years past, in our constant attendance at such meetings, we really remember nothing like a disturbance over any of these once forbidden topics. If there is a "sensation," it is, as at Towcester last autumn, from one man telling his fellows that they are not farming their land so well as they should do, rather than from any party encounter betwixt the Blues and the Yellows.

And in this wise our agricultural associations prosper exceedingly. Landlords and tenants of all shades and sides alike support them, willing and anxious to bear and forbear with each other. In fact, we repeat that it is seldom we witness anything like ill-feeling on such occasions. It is, then, with some surprise that we have learnt how a very influential local institution has been in hot-water of late. At the recent meeting of the Norfolk Society, at Swaffham, it appears that the company at the dinner got altogether out of order. They talked politics of the most virulent and party character. Indeed, so offensive did this become, that one of the vice-presidents has, upon mature consideration, determined to withdraw his name and support.

The Earl of Albemarle has addressed the following letter to the Secretary: "Sir,—Some years ago, I consented to become Vice-President of the Norfolk Agricultural Association. I did so in the hope that the rule relating to the exclusion of politics from the proceedings of that body would be always strictly adhered to. But, inasmuch as this rule was violated at the late annual meeting, by several of the leading members of the association, I feel compelled to withdraw my name from the list of subscribers. I have the honour to be, sir, your very obedient servant, ALBEMARLE."

It is with very sincere regret that we find the necessity for any such step of this kind. It might almost have been better if so judicious and careful a man as Lord Albemarle had for once consented to overlook the transgression. There are too many touchy curious people ready to follow such an example, the more especially when it is set them in high places. However, as it is, we have only to turn and see how far his lordship's fellow-members offended, and what excuse can be made for them. We are sorry to say a glance over the report shows us that, as Lord Albemarle writes, "the rule was violated" very early in the proceedings. Of course, one of the first toasts on the list was "The Army and Navy," and the gallant gentleman who responded was indiscreet enough to make it a means for attacking the political character of the nobleman, the Marquis of Lothian, who occupied the chair. Only listen to such language as this, introduced into an Army and Navy "thanks" at an agricultural dinner:—"While he was anxious to see the noble Marquis oftener in this county, and to hear his voice, as they had just had an opportunity of hearing it—he should also like to hear it in another place; because, although he knew not what side of politics the noble marquis had taken, although he saw him very properly sitting upon the cross benches in another place; and weighing the nearly-balanced parties to see which side was likely to do the best for his country, he was sure that whenever the noble Marquis did take an active part in public business, whichever party had the honour of owning him would be greatly advantaged by having a man of his commanding talent, of his deep research, and of his thorough independence of character."

This is pretty fair—nearly tantamount to asking the chairman, a new man in the county, to declare, the next time he rose, whether he was Whig, Radical, or Tory. The gallant representative, however, of the Army and Navy had not done yet. "This preface had taken him almost away from the toast to which he was called on to respond. He had left London only a few hours, and had found everybody making anxious inquiries as to *who the new ministers were to be*; but all that they at this meeting had to do was, to know that their premier was found, and that on him (the noble earl) for the moment devolved the office of Secretary for War (a laugh). But being Secretary for War, he was bound to say that he differed from the noble marquis upon those alarms

he appeared to have as to the future of this country. *If there ever was a time in which, in his opinion, there was the greatest security for the maintenance of that neutrality which every class of politician was agreed upon, the present was the time. He could not for the life of him see one conceivable cause for bringing this country into collision with any of the continental Powers. He could not see what business the present struggle was of ours.*"

Surely this is all very dangerous ground. Here is a speaker going out of his way to declare himself a party man, and to open a discussion that every other man in the room might take up. Fortunately, they only "laughed." But we can picture the Committee, when the meeting was over, passing a tacit resolution amongst themselves not to give this Army and Navy orator another such a chance of making things unpleasant. He has happily spared them any further trouble on the subject, for he has withdrawn from the Society. In a word, the gentleman who tried to draw the Marquis of Lothian into an avowal of his political opinions—who owned himself to be a party man, and was ready there and then to differ with those who did not side with his party—is the Marquis of Albemarle! The nobleman who secedes from the Norfolk Agricultural Society for the distinct reason that "the rule relating to the exclusion of politics was not strictly adhered to."

Will anybody be surprised to hear after this that the most political speech of the whole evening was that of the Earl of Albemarle, and that he was the first to touch upon topics that were subsequently followed up by other speakers? Lord Leicester, for one, was "imprudent" enough to argue in favour a rifle corps, a matter that has been referred to at almost every agricultural meeting of the year, and that we trust to see spoken to in every other such a gathering yet to come. Mr. Bentinck, one of the county members, also advocated such a system of national defence; while others touched on the prospects of the war and our chances of any share in it—text words introduced to the meeting by Lord Albemarle, and that it was distinctly a compliment to his lordship to make any further reference to. If they had allowed his remarks to pass, as perhaps they should altogether, without notice, the Norfolk Agricultural Society might have still enjoyed the honour of having the Earl of Albemarle as one of its Vice-Presidents.

It is impossible to suffer so curious a story as this to pass without the telling. The more, indeed, it is known, the more good it must do. What are the politics now that an agriculturist must not touch on? Is the formation of a rifle corps amongst them? We really hope not. Are not personalities quite as indigestible as such kinds of politics as were here introduced? We really hope they are. And has not the Norfolk Society quite as much cause to withdraw from Lord Albemarle, as his lordship has to withdraw from the Society?

"Sir!" hiccups out the drunken butler in Goldsmith's comedy of "The Good-natured Man"—"sir, I say, I sha'n't stop here if Thomas does." "And why not?" asks his master. "Well, sir," is the reason given in answer, "Thomas, you see—Sir—Thomas is given to drink; and as I can't bear a drunken man—I sha'n't keep his company" (*staggers out of the room*).

THE BEST AND CHEAPEST METHOD OF MANURING THE FARM.

SIR,—I am often amused at the various unfounded charges laid at my door, seeing that they originate in the brain of erroneous conviction and unfounded belief. I should

think that your correspondent, "Kent," had convinced himself by his own experiment that making meat is the cheapest way of obtaining manure; but as he still seems doubtful, I would recommend him to read Mr. Lawes' paper on the subject in the Royal Agricultural Society's Journal, which ought to convince him scientifically. A farmer will seldom fail to have an abundant crop of corn on one-half his farm if he makes, as I do, ten score of meat per acre on every acre of his farm. The labourer makes thirty-two score per acre. How that meat is to be made is dependent on circumstances.

Nothing pays me better than giving sheep 11b. of rape-cake per day; as they get fat, they will eat nearly 1½lb. per day. Rape-cake costs £6 per ton, as manure it is worth £3 3s. per ton; and we believe that 7lbs. of rape-cake will make 1lb. of mutton.

Fattening hogs entails a loss of about 10 per cent., as an average; but still it is much cheaper than guano. 56lbs. of barley-meal is generally considered sufficient to produce 8lbs. of pork.

Fattening bullocks on the principle laid down by Mr. Horsfall is also a cheap way of obtaining manure.

When you have made your manure, take care not to waste an ounce of it. This has been my custom for the last fifteen years, and as a consequence my farm teems with fertility. The alops and excreta from the house should all go on the farm.

Guano pays very well on a distant field, or when you are too busy to cart manure; it is also a good addition to the farm manure for a greedy root crop. Nine-tenths of the land in this kingdom are neither well manured or sufficiently cultivated.

If I know how many score pounds of meat a farmer produces per acre, I can generally make a shrewd guess what his crops are.

Yours truly,
Tiptree, June 8.

J. J. MECHI.

P.S.—A labourer usually fats one pig, using 4 sacks of barley-meal, and adding about six score to the weight of his pig. This, on his garden of one-eighth of an acre, would be 48 score per acre, or the consumption of 15 to 16 quarters of barley per acre.

ANCIENT BABYLON v. MODERN LONDON.

SIR,—We read, in ancient history, of Babylon being 60 miles in circumference, surrounded by a wall 350 feet high by 87 feet thick; therefore Babylon within the walls stood upon 144,000 acres. What became of the sewage 3,000 years ago is not mentioned. Let us consider that Babylon shone in the dark age of witchcraft and giant Gogs and Magogs; mockery animals, great in size, but small in mind. We read of Assyrian monarchs paying great attention to agriculture, and Persian kings awarding premiums with their own hands to the best cultivators. But so long as the above fabricated monsters were allowed to pass as existing, agriculture must be at a very low ebb.

What were the puritans of that age about? as they did not enlighten the people. Or did they want to keep them in ignorance, so that they could more easily impose upon them? The steam, gas, and telegraph are too powerful to be obstructed by witches or witchcraft; and the *Mark Lane Express* and *The Farmer's Magazine* are too strong and useful to be checked or clogged in their progress by giants or bad legislation. If the sewage of Babylon, in the days of Alexander the Great, of Macedon, ran into the sea, it is no reason why the sewage of London should manure the sea now.

We are told that London and its environs cover 20 square miles, which is 76,800 acres, with a population of over 2,500,000 souls, which is about 52 per acre. I believe the population of Babylon is unknown. Our agricultural implements in husbandry would astonish the Babylonians much more than witches.

SAMUEL ARNSEN.

Blue Bell Inn, Peterborough, July 6.

THE AGRICULTURE OF CANADA—ITS FUTURE DEVELOPMENT.

So many small farmers and others, tempted by the free grants of land offered and the cheap facilities of passage, have emigrated to Canada within the last year or two, and the steam communication is now so regular with that province, that its agricultural prospects and social condition are watched with considerable interest by thousands who have relations there, or are interested in business connections with that colony.

The agriculture of Canada is its mainstay, and agricultural products constitute the great bulk of the exports. Out of a total of about £8,000,000, to which the annual exports approximate, the whole, with the exception of half a million yielded by the fisheries, the mines, and manufactures, are furnished by the forests, the fields, and the farms. Its wheat produce has gone on increasing by millions of bushels, although subject to the usual fluctuations of deficient crops and diminished foreign demand. Still, as an enlarged quantity of land is yearly cleared and brought under culture, the agricultural width of the province increases, and though there are checks to prosperity there as elsewhere, the advance is progressive and the accounts not unsatisfactory.

The general depression of trade in Canada during the past two years may in some measure be attributed to the short crops of the two last harvests, the failure of which, in an agricultural country like Canada, must vitally affect its commerce, especially so when the cultivators of the soil become imbued, as many of the farmers have been, with a restless spirit of speculation, involving them in obligations altogether beyond their usual means of liquidation. The enhanced value of produce naturally communicated itself to land, the basis of production, which was eagerly sought after as an investment by farmers and others, until, in their desire for speedy wealth, they overstepped the bounds of prudence, and made large investments in wild lands and other unproductive property.

Notwithstanding the disturbing causes, prices all over Canada ruled higher than in periods when there existed an active European demand. The Canadian farmers realized rates which, had the crop been at all near an average, would have been highly remunerative, and when taken in connection with the decrease in the value of property, the scarcity of money, and the depression of almost every other interest, are gratifying in the extreme. The demand was not for local consumption, but was taken by the Americans, and it is certainly creditable for Canada that she can compete in supply with the Western States.

There is a constant and increasing demand in the New England States for Canadian wheat, which bears a very high character among the millers. Flour of a high grade for family use is the principal requirement of the New England markets. A practice, too, is pre-

valent, of mixing fine Canadian with ordinary Western grain, which produces a description of flour much superior to that made from the Western wheat alone. But not only in regard to the superiority of samples is Canada favoured, but a great advantage also accrues to the Western districts, and especially Toronto, from geographical position. The proximity of that port to the American markets is greatly in its favour. It will not pay American shippers to bring grain from Chicago, Milwaukee, or even Detroit in small lots: large cargoes, of from twelve to eighteen thousand bushels, are alone remunerative; and this is often much more than is immediately required by a miller, who has not only to run the risk of loss in the value by a long voyage, and take the chance of a decline in the market, but he must have large means at his disposal, which is not always the case. By purchasing at Toronto or neighbouring ports, he avoids all these troubles. Small cargoes of three to ten thousand bushels are available within a few days' notice; the risk of loss on the voyage and the chance of a decline are much lessened. Again, Toronto enjoys an advantage in the comparative length of the season of navigation. They ship from that point a month earlier and later than from Western ports; and this, at a time when stocks are light, is of great importance. The shipments from Toronto of flour and wheat are made to Oswego, Ogdensburgh, Cape Vincent, Rochester, and Portland in the States, and Montreal, Quebec, and other ports of the province.

The shipments of flour and wheat from Toronto last year to the ports named amounted to 114,966 barrels of flour, and 579,333 bushels of wheat. This shows a falling off, as compared with the previous year, to the extent of 48,212 barrels of flour, and an increase in the export of wheat amounting to 73,711 bushels. There is much less difference than might be expected in view of the acknowledged failure of last year's crop.

Although labouring under the deficiency of short crops the last two years, and with the British market less open to them, the Canadians seem to have done exceedingly well last year with their agricultural produce. The harvest in this country last year having been excellent, there was a lighter demand here for the products of the western world than usual. Hence American and Canadian produce was almost a drug on the London and Liverpool markets, drooping prices prevailed, and there was almost a continuous decline throughout the year. The imports of wheat from British America were not lowered very much below the average of the two preceding years. We received in 1858, 100,821 bushels, against 114,795 in 1857, and 111,819 in 1856.

The average monthly price of fall wheat in the Toronto market steadily rose from 83 cents in January,

to 1 dollar 14 cents the bushel in December. From a tabular statement before us, it appears that the highest price realized for wheat in the Toronto market in the last 13 years, was in June, 1855, when 11s. 9d. currency per bushel was paid in several instances, and that the lowest was in the months of October and November, 1851, when 3s. 1d. was the highest price realized.

There is a branch of trade closely identified with agricultural progress in Canada, and that is the lumber trade. Besides its large individual pecuniary returns, there is to be taken into the calculation the clearing and settlement of the lands from which the timber has been cut, the villages which spring up wherever a saw mill is erected, the large number of persons employed in getting out, squaring, and manufacturing the timber, the shipping engaged in its transport, and all the various departments of trade dependent upon this large branch of business. It is in Eastern Canada rather than in Western Canada that "lumbering" is most extensively carried on. But even in the upper province there is a large amount of land cleared from time to time of timber. Thus the saw-mill operations on the northern line of railroad saw, on the lowest calculation, 30,000,000 feet per annum, and the resources of that section are sufficient to afford a supply at this rate for seventy-five years. This estimate does not include the country beyond Collingwood or on the Georgian Bay; but merely embrace a tract within five miles of either side the line of the road, and within ten miles of the shores of Lake Simcoe.

In dairy produce and animal products generally, Canada makes less advances than she might do. Take the trade of Toronto as an instance for the last year. The provision trade, it is true, is improving. Thus, in-

stead of depending solely upon the Americans for pork, the Canadians now breed their own hogs, and the home supply and demand are nearly equal. Thus nearly 1,000 tons of pork were purchased in Toronto for home consumption and export in 1858.

The transactions in butter were light, and generally for local consumption. The exports from Toronto were 13,000 cwt. Its value might be much improved if more care were taken in packing. The butter generally is good; but the mixture of different varieties and colours makes it present an unfavourable appearance, and of course less saleable. There is no reason why a large business should not be done in Canada in butter, as there is every facility in making, and a constant demand.

The same with cheese. There was a large importation from the United States, and but little of the local consumption is supplied by the Canadian farmers. Not less than £4,000 was paid in Toronto alone for cheeses, which might have gone to the farmers of the province if they had but energy enough to lay themselves out for it. There is too generally a neglect of these subsidiary articles of commerce, which are always in demand at remunerative prices. With the increasing facilities of railroad and canal communication in Canada, eggs, poultry, butter, cheese, cured provisions, and market garden produce will always find a ready sale in the large towns whose population increases so rapidly. Prof. Johnston, Dr. Mackay, and every intelligent observer who has recently visited Canada speaks highly of its industrial resources and agricultural capabilities; and if the difficulties of a short labour supply can be got over, and the winter be forward, there is fair prospect of success for industry and application.

ON THE UTILIZATION OF THE WASTE PRODUCTS OF THE FISHERIES.

OSLER'S PATENT FISH MANURE.

The enormous consumption of guano, its high price, and extensive adulteration (not in England only, for large quantities of ground coprolites are exported for mixing), have led to the reasonable desire to obtain an auxiliary, or substitute, which shall yield, like guano, a large proportion of azote and phosphate.

The most obvious source of such an auxiliary is the fishery, by which it may be hoped that we shall find an equivalent for the Chincha islands, on the 8,000 miles of our own coasts; any substitute that could be found would confer a substantial benefit on the country, and give employment to a branch of industry deserving of encouragement. It may be asked, why the manure from sea birds, which is to be found on some of our northern rocky islands, should not equal foreign guano? This is fully accounted for by the humidity of our climate, the frequent rain washing away its most valuable properties; whereas, in Peru it never rains, and the manure is deposited stratum on stratum, when it consolidates, dries, and returns all those powerful ammoniacal elements which are especially required for the luxuriant growth of agricultural crops.

We have around our sea-board an unfailing supply; and if, instead of trusting to the chemical agency of birds, we were

to convert the fish, which swarm our coasts, into as profitable manure as they will produce, it would materially assist our fisheries, and be a valuable boon to agriculture. Owing to the facility of its decomposition, and consequent difficulty of transport, it has heretofore been unemployed for this purpose, except on the coast lands where found; but, by means of this patent process, fish is converted into a dry, inodorous, and easily-transported article of commerce, and carefully prepared, without the loss of its elementary constituents, will produce greater results than Peruvian guano, at a much less cost.

It has been ascertained, by multiplied and satisfactory experiments, and confirmed by actual working, that the waste and refuse fish may be thus converted, and the gelatine and oil collected. The machinery and the process are most simple, inexpensive, and effectual. The resulting manure is a dry fibrous powder, which retains all the fertilizing powers of the fish, in a form most convenient for use, its appearance and sensible properties will make adulteration almost impossible; since every one could judge for himself, by the mere inspection and smell, of its genuine character. The demand would certainly far exceed the utmost attainable supply, and at a price cheap as compared with any other manure, it would give a

very large profit to the manufacturer. The waste and refuse of a great fishing port would supply the materials cheaply, and without risk; and as it will be a great additional gain to a fishing adventure to obtain a certain and constant demand for all their waste and otherwise unsaleable fish, the establishment of manufactories of fish manure will lead to new fisheries where without such aid they could not be prudently commenced.

None but a fisherman can tell the take of a trawler; the quantity of fish in the sea is illimitable, and there are no bounds to the supply. It only depends on energy and the exercise of skill to afford any quantity that may be required. All the inhabitants of the ocean may be converted into guano. Nearly all except the best fish have hitherto been thrown away, the farmers declining to take trouble to procure them, although quite ready to admit their good qualities. Skate, dog-fish, five-fingers, prawns, and small crustacea, may all be converted into valuable manure; and a certain market for refuse and broken fish will tend to the more perfect development of the fisheries. It is said a cod produces more than three millions of eggs, a ling nine millions, and other fish several hundred thousands; and the question of supply would be set at rest for ever, were common industry, patience, and perseverance employed in securing this vast wealth that exists on our coasts.

A manufacture of fish manure, by a patented process, was carried on by a French company at Lowestoft. The fish were exposed to the action of high-pressure steam, then subjected to hydraulic power, and finally dried and ground. The process was necessarily troublesome and expensive, and the oil and gelatine removed by pressure, would be so contaminated as to be very greatly reduced in value. Moreover, the state of isodorous powder, to which the manure was reduced, offered great facility for adulteration. Hence the manufacture proved a commercial failure, and has been abandoned.

It has been attempted to utilize refuse fish by treating them with sulphuric acid for superphosphate. This has failed, as was inevitable from the small proportion of phosphate of lime in fish. Its only use is to convert insoluble into soluble phosphates; but the quantity of insoluble phosphates is not great and the acid, unless so greatly in excess as to injure the manure, would not touch it. The analysis of the Patent Manure shows that the solids left by the process contains only from 6 to 7 per cent.; and as the manure is the solid part of from two-and-a-half to three times the quantity of fresh fish, it follows that the entire fish contains only from 2½ to 3 per cent. of phosphates.

Fish contain muscular fibre, as the chief part of the solid mass; phosphate, and a small proportion of carbonate of lime, in the bones and scales; gelatine, chiefly in the skin and air-bladder; oil, either under the skin and among the intestines, as in the pilchard; diffused through the fish, especially in the thin part, as in the salmon, mullet, and mackerel—or in the liver, as in the cod, shark, skate, and dog-fish; and water, which enters very largely into the composition of every part.

Fish scales may be procured wherever there is a smoking house, and be a valuable addition to the manufacture, on account of the ammonia and phosphates which they contain: these are similar to hair, horn, wool, and other appendages of the skin. The action of ammonia on such solids promotes their decomposition. Their advantage is, that nothing is wasted: their defect, that they are slow. This they have in common with bone-dust. Scales ground and mixed with fish manure will be quite as good as Peruvian guano: the fish powder would act quickly, the scales more slowly; but all would be good, and no waste. The Patent Fish Guano will have the animal fibre, of which the azote will be converted to

ammonia when the manure decomposes in the ground; and this is its great excellence. It is not like guano, which evolves ammonia with such intensity that it will kill vegetation unless diluted. This manure will not give any, for it has none, till it decomposes by moisture by being put into the ground, and then the clay will absorb it as fast as it is evolved. Common care to keep it in a dry store will suffice; and if accident should wet it, as on a shipboard, it will take no harm for a few days, but may be dried, and will be then as good and safe as ever. The proportion of azote and phosphate will vary with different fish, at different seasons. It is enough to fix all the manuring principles, and remove all that is worthless for the purpose. The body of the fish is excellent: it contains much phosphorus, as we see by the shining of stale fish, and abounds with ammonia; and, prepared in a form available for preservation, carriage, and distribution on the land, no manure can be better.

What we require is a cheap, simple, and effectual mode of separating the principles which are needless for manure—the water, the gelatine, and the oil—the two latter sufficiently pure to be commercially valuable; and of leaving all the azotized principles and phosphates—the fibre, the bones, and the scales—in a state for keeping and for use. I believe this object to be fully attained by a process which I have discovered, and of which the specimens sent herewith are results. All that is useless for manure is completely removed by an easy and safe process, which leaves the solids as a fibrous powder, while the oil and fish-glue are obtained in a merchantable state. The machinery is not expensive, and may be put up by any intelligent workman; and no particular skill is required to conduct the process. The oil and fish-glue will generally cover the cost of manufacture, and even afford a satisfactory profit. The manure retains in a concentrated form all the azote and phosphorus of the fish, and its fibrous appearance will enable the agriculturist to judge of its genuine character without analysis.

The manufacture, carried out on an extensive scale, would have a great value independent of agriculture. The power of converting all inferior and superabundant fish into an excellent manure will allow a fishery to be established wherever a boat can find shelter; and it is needless to observe how great a blessing to the labouring population is an abundant and cheap supply of fish at their own doors. As a substitute for guano we can only look to that which is its original source, namely, the fishery. The main difference between guano and fish, as prepared by my process, is, that a large proportion of the animal fibre has in guano been destroyed by digestion; so that the phosphates remain united with a smaller proportion of ammoniacal principles, and that the ammonia, instead of being fixed, as in my manure, flies off by heat and exposure. Both manures would be ineffective applied to a dry soil; but the guano under such circumstances would lose its ammonia: the fish manure would only be preserved till moisture should decompose it. Fish manure retains its azotized matter with the phosphates in their proportions as they exist in the fish. Analyses by the first agricultural chemists show an average product of 80 per cent. animal fibre, 6 phosphates, 8 to 12 water, and 2 to 6 earths and earthy salts derived from the bones of the fish and the sand in the contents of their stomach.

A manure containing so large an amount of azote must be very valuable; and for crops where a larger proportion of phosphates is required, it is easy to add superphosphate as needed. The manure would thus afford the fertilizing elements of guano, in the same degree, and at half the cost. Ten tons of inedible firm fresh fish will produce nearly three tons of guano, and a similar quantity of salted about four tons, in

which the salt will remain in the fibre, but lessening its value by affecting the analysis, and the water holding the gelatine in solution, when it is not boiled down for fish glue, or isinglass, would be a valuable liquid manure, though available, of course, only for the immediate neighbourhood. Fish refuse will be more or less decayed; hence the dark colour of the water. We cannot prepare gelatine from it, and would separate the oil with difficulty, while the fibre would be broken down. The beautiful clear fibrous result is from sound fish, and from these alone we can get gelatine.

The following is condensed from a report by Professor Way (of the Royal Agricultural Society of England), on fish manure:

"It is perfectly practicable to produce from fish a portable manure of great value, not subject to alteration by keeping, under ordinary circumstances. There cannot be a doubt of the value of this manure, especially for corn crops; and the manufacture of manure from fish, offers the only available means for supplying the demand for additional ammoniacal manure, and will, if carried out on an adequate scale, be of essential benefit to the agriculture of this country."

The fish manure produced by my patent, is rich in the best fertilisers—ammonia and phosphates. It has been tested by the following analytical chemists: Professor Way, of 15, Welbeck-street; Professor Anderson, on account of the Highland Agricultural Society; Dr. Stockhardt, of College, Tharand, Dresden; Dr. Voelcker, Royal Agricultural College, Cirencester; Dr. Medlock, Great Marlborough-street; Mr. J. C. Nesbit, College of agriculture and chemistry, Kennington; and by Messrs. Sicherer and Hausmann, of 17, Eastcheap, London.

ANALYSES FROM VARIOUS DESCRIPTIONS OF FRESH AND SALTED FISH.

	By Professor Way, 15, Welbeck street, Cavendish-square.	By Dr. Stockhardt, College, Tharand, Dresden.	By Dr. Medlock, Great Marlborough- street.	By Dr. Voelcker, Agricultural Col- lege, Cirencester.	By Messrs. Sicherer and Hausmann, 17, East Cheap.	By Mr. Nesbit, Kennington.
Moisture	11.2	11.09	14.23	13.11	8.21	5.00
Organic matter	78.48	77.85	76.69	64.59	60.73	81.00
Silica	0.78	1.21	0.53	1.58	1.51	1.85
Phosphate of Lime	7.55	6.73	6.24	6.86	5.94	8.95
Sulphate of Lime	...	0.77	...	.40	3.61	3.36
Alkaline Salts	2.38	...	...	13.48	...	...
Chloride of Sodium	...	2.35	2.35	...	...	...
Containing	100	100	100	100	100	100
Nitrogen	12.76	10.59	11.07	9.11	8.09	7.68
Equal to						
Ammonia	15.50	13.06	13.02	11.56	10.58	9.32

Average:—Nitrogen 9.72, Ammonia 12.01.

Fish are used for manure, whenever they can be obtained in sufficient abundance, that is to say, in a few situations and at distant intervals. My process makes it available for every place and at all times, and the cost of the manure will seldom exceed that of the fish from which it is made. The national importance of finding a satisfactory substitute for guano is increased by the waste of vast quantities of the richest manure carried to the sea in sewage, through sanitary arrangements, thus robbing the land to manure the sea. It must give increased luxuriance to sea-weed round the coast, and consequently increased food for fish. The land can recover that of which it has been thus robbed, only by a systematic application of fish for manure. The sea is therefore the only source of an adequate supply, by the conversion of fish into

for food, of fish when taken in excessive quantities, and for a manure not quite so good from fish refuse.

The principle of the manufacture is founded upon the fact, that when fish or flesh is subjected to a long-continued and moderate heat, the fluids separate, dissolve the gelatine, and leave the fibrous and bony solids. The principle may be shown most easily by putting meat or fish into a Florence flask, and setting this in boiling water, corking the flask when its contents are fully heated. The fluid will gradually separate, while the flesh after a time will be left a dry and insipid residuum. The process is available for obtaining the richest and purest meat gravy in cooking for the sick, and it embodies the principle of my patented plan. In the manufacture the direct application of fire heat is inadmissible; but hot water, steam, or hot air is equally available, and each has its own advantage. Hot water limits the heat to 212; but hot air gives the command of higher temperatures without the risk of burning: therefore assuming the skill and attention of a reasonably competent and careful foreman, it will enable to dry the manure more quickly and thoroughly, and to evaporate the liquor for gelatine. It will be necessary to manufacture from fresh fish, when gelatine is intended to be made, such as dogs, and other sorts not used for food, and the superabundance of good fish for which there is no market. At great fishing stations, the fishermen will immediately deliver all such, when they find there is a sure market and prompt pay.

The external character and appearance of this manure are so distinct that adulteration would be detected by the eye, and the farmer would have in his own observation almost a sufficient security against fraud. Flies may attack it as an animal substance, and if damp it will mildew. When a more rapid action is desired, it should be mixed with soil or compost and wetted with urine to promote decomposition which otherwise might be delayed, as fish-guano must be in a state of decomposition before it can act, and if it would decompose without damp, it would not keep. By mixing fish-guano, which abounds in nitrogen, with the required proportion of superphosphate, the farmer will have a manure fully equal to Peruvian guano, at little more than half its cost. The power to make all kinds of fish available, and to waste none, will allow fisheries to be established in every place, thereby providing, on all parts of the coast, employment for the labourer, food for the poor, reliable manure for the farmer, an extensive nursery for the navy, an effective coast-guard, and help always at hand for vessels in distress. To which it may be added that the exciting pursuits of the fishery may afford the very best means of rendering harmless the juvenile outcasts of society, reclaiming them effectually, by furnishing employment suited to adventurous and unsteady characters, such as juvenile outcasts will generally be found, and introducing them to pursuits which they will have no inclination to abandon for disorderly courses.

The chief seats of fishery where supply is in excess of local consumption, are—Yarmouth, Ireland, Scotland, and its islets; the south-east coast of Cornwall, where there are upwards of 300 fishing-boats of 10 tons and upwards in a coast about sixteen miles long; the regular price of dogs 2½d. a score, equal to less than 8s. per ton; the refuse fish from the hundreds of trawlers for the London and other great markets; in Torbay and Plymouth Sound, France, Newfoundland, &c. "A Memoir on the Cod Fishery," by M. Perrie, of St. Malo, presented to the French Government, in 1782, during the negotiations for peace with England, describes the French share of the Newfoundland fishery at that time to be 840 ships, of 36,800 tons, employing

15,000 men, and providing 1,500,000 green cod, 320,000 quintals of dry fish, and 8,340 barrels of oil. John Kent, Esq., Colonial Secretary, St. John's, Newfoundland, tells us "The resources of this country are as yet undeveloped, and were the herring and other fishing prosecuted as a distinct branch of industry, in addition to cod, very large returns would be made."

Star-fish abound on our coasts, and may be found in immense layers, whose gelatinous entrails, very rich in phosphorus, form conjointly with the brittle skin or shell a most powerful manure. It is said the beds around Ostend will yield 30,000 hectolitres annually, and many of our coast lines

possess the same amount of this hitherto neglected source of industry.

Thus, from a variety of sources, we can produce a quantity of genuine manure, without waste, and which consists of the azote and phosphate principles of fish, in their most concentrated and available form; the large amount of nitrogen present, affording the most ready and simple test of great value; but the blessing to the country will be in its leading to the establishment of fisheries in every cove, and retaining at home the large sums hitherto sent abroad. SAMUEL OSLER.

Great Yarmouth, Norfolk, June 10th, 1859.

THE SUMMER GRAZING OF STOCK.

The summer grazing of horses is a subject which is very seldom treated upon by any writers upon the management of horses. In fact it is not one upon which much of importance can be said, still there are various points of management connected with summer grazing which are well worthy of consideration, to which in this short paper it is my intention to allude, and chiefly as connected with ordinary grazing and its benefits.

Youatt says, "The spring grass is the best physic that can possibly be administered to the horse. To a degree, which no artificial aperient or diuretic can reach, it carries off every humour that may be lurking about the animal. It fines down the roundness of the legs; and, except there is some bony enlargement, restores them to their original form and strength. There is nothing so refreshing to their feet as the damp coolness of the grass into which they are turned in April or May; and nothing so calculated to remove every enlargement and sprain, as the gentle exercise which the animal voluntarily takes while his legs are exposed to the cooling process of evaporation that is taking place from the herbage on which he treads. The experience of ages has shown that it is superior to all the embrocations and bandages of the most skilful veterinarian. It is the renovating process of nature, where the art of man fails."

This is a clever and concise summary of general benefits derived from the summer grazing of horses, and applies alike to all breeds, from the high-bred Arabian to the common cart-colt.

I am well aware that the summer grazing of racing horses and hunting horses is confined, in far too many cases, to the loose box, and a moderate supply of green food. This may be quite right practice with a few superb horses, to whom accidents are more to be feared than failing health or groggy legs; but to the whole of these classes of horses it would greatly tend to promote their permanent utility; their powers of endurance, strength, and action, if they were permitted to graze at pleasure during the months of May, June, and July, or so long as they are not injuriously annoyed by the insect tribe, or that their feet suffer from galloping over hard pasture grounds.

The state and condition in which these horses are kept for work, are by no means a bad preparation for

summer grazing. It is, however, still more desirable that the little remaining flesh these animals carry should be further reduced, so that the change of flesh they obtain from the grazing should be as far as possible a renewal, and with it I apprehend a renovation of the vital powers, or constitution as it is generally called. For this purpose it is simply requisite to reduce their allowance of food, and not to do it by physic or medicinal treatment: "Doctor Green" will do all that more satisfactorily. There may be good reasons for a resort to blistering the legs prior to being turned out; but too much caution cannot be exercised upon this point, as old swellings and enlargements of the leg often give way to milder means. Blistering is acted upon as a counter-irritant, upon the principle that no two intense inflammations can exist in neighbouring parts at the same time. "Hence" says Youatt, "we blister the sides in inflammation of the lungs; the abdomen in that of the bowels; the legs in that of the cellular substance surrounding the sheaths of the tendons, or the sheaths themselves, and the coronet or the peel in inflammation of the navicular joint." One point of importance to be borne in mind relative to blistering legs, is that it is apt to degenerate into grease; another point to be observed in reference to these peculiarly high-fed animals is, that if they are found to be laying on flesh too fast, they must be bled; but it is seldom requisite, and is often attended with unfavourable results. The removal to a less nutritious pasture would generally suffice. It is never desirable to graze several of these animals together; but they must have company, and a quiet old horse or a donkey is often introduced to the pasture with good effect. Their habit is to play and gallop about; and if not provided with a companion of their own species, they will generally greatly annoy the other stock of the field in their playfulness.

THE NAG HORSE OR ROADSTER.—These horses are for the most part (in the country, at least) turned to grass early in the spring, and are continually grazing in the night, and at work by day. When off their journey or their daily work, they receive a feed of corn, and are then "turned afield" at night. In this way they do their work well, and keep in admirable condition. Should they, however, be required for a journey at a quick rate, they are usually taken up for a day pre-

vious, and are supplied with dry food exclusively. They will thus perform it without inconvenience or injury.

THE DRAY OR CART-HORSE.—The farm-horse throughout the country is generally managed as the nag or roadster, and as named above; but when fattened for purposes of sale, he is turned to the best pasture the farm will produce. He is usually worked up to five or six years old, and disposed of according to the class to which he is best adapted. If he makes up a large and powerful animal, he is sold to the dealer for a dray-horse; but if he fails to make himself fat, or his dimensions and nobility of character is below the recognized standard, he has to fill the more humble, but not less useful station of a cart or farm horse; and it is the pride and glory of many farmers to work this higher class of horses, although horses of much less value are quite as well suited to their purpose, and are worked at far less risk of loss. This is a matter of taste, and I had almost said luxury. I am far from withholding this splendid gratification to the spirited farmer who can afford it; but it is only such men who should be thus encouraged; the man with moderate means should forego it.

YOUNG HORSES—YEARLINGS.—These, like young cattle, if well wintered, are almost rendered safe for a summer's grazing; but to turn out to luxuriant grass a yearling in poor condition, is a very doubtful course, rendering him liable to all the ills that young animals are heirs to, *i. e.*, catarrhs, swelling of glands, bronchitis, pneumonia, followed by roaring, wheezing, &c., &c. Then again, scouring, colic, inflammation of bowels, &c., ensues; and unless subjected to the most careful treatment, death or permanent bodily weakness is the concomitant result. Two-year-olds are by no means so much to be cared for. Give them a good pasture and plenty of room, and they are sure, if in a healthy state, to make themselves fat. The usual course with young horses is to turn them into fields, with the general stock of the farm, in the proportion of one to about five acres; they will in this way not do much to diminish the quality of grass, for they love to graze those precise spots not well relished by other stock, such as footways, roadways, furrows, grip-bottoms, and the like. If grazed for sale, they should be put into the fattening pastures, and, if necessary, pushed forward with a feed of corn daily, as dealers much prefer a truly well-fed colt, and will give a much higher relative price for him, than if below the proper standard.

MARES AND FOALS.—Too little attention is paid to mares as breeders. They are generally kept on the farm for service as workers, and if they breed a foal all well and good. This is not quite right. A mare should be rested, and in season should be turned to graze some little time before foaling, a few days at least. After foaling she should have a sheltered pasture or a hovel to run into at pleasure; and if grass is scanty, she will require a feed of corn daily. I wish more particularly to call attention to the proper grazing of mares and foals. "It is the most important period in the life of the horse; and if from false economy his growth

is arrested, his puny form and want of endurance will ever afterwards testify the error that has been committed." Thus again, says Youatt; and it is perfectly true. It is only in this early stage of the foal's growth that most attention is required. After a time, or some five or six weeks, the mare may be put to slight work; but then it is not without injury to the foal, even if never so well fed. To bring up a good foal, the mare ought to have the summer's grazing in the ordinary pastures, and a short time previous to weaning she should have a feed of corn daily, so as to induce the foal to partake of it, in order that it may be continued to him when weaned, as it is then essential to his full progress, and to compensate for the loss of his dam's milk. He should also be turned to the eddish or aftermath, till taken up for the winter.

THE SUMMER GRAZING OF SHEEP.

First, the pastures. It is impossible to graze sheep advantageously unless the pastures are prepared and preserved in a fruitful and profitable state throughout the summer. The preparation of the pasturage will depend much upon the nature and kind of pasturage, *i. e.*, meadow-grass; clovers, seeds, sainfoin, tares, or other artificial grasses: be they of whatever kind, it will be requisite to lay them in early in the spring, or during the winter, so as to be in readiness as early as possible to take the sheep stock immediately after they have finished their winter food. The ordinary pasture grasses may be winter grazed up to the 1st of February, but all other kinds should be rested during the whole winter, and not to be stocked till they have commenced their spring growth, and the stronger that growth the better.

The Ewe Flock.—The commencement of ordinary spring grazing will be with the ewe flock. In almost every district throughout the United Kingdom the ewes pass through the lambing season on the turnip crop, or they are fed on pastures from the turnip or mangold crop—generally the latter in the present improved order of things. As soon as the lamb is of sufficient strength and growth, the ewe is drafted on to a field of reserved grass or seeds, clovers, &c., there also to be sparingly supplied with mangolds or turnips. She is thus fairly launched into the summer's grazing, and, generally, as the respective grasses become sufficiently fruitful and well-grown, the mangolds or turnip supply ceases. This, however, should be cautiously done. It is best to keep up a supply, however scanty, so long as the farm can afford it, and then to be followed by limited rations of cake, which should be continued to the lambs during the whole summer. The supply of cake should be continued to the time of shearing, when that to the ewes might cease; but provision should be made so that it might be continued to the lambs throughout the summer. This every breeder can contrive as best suits his convenience. At the time of weaning the ewes should be taken to the most inferior pasturage of the farm for a few days, to moderate and rectify their milk: the lambs to remain, and a slight increase of cake to be given them. It is now proved beyond doubt that a moderate allow-

ances of linseedcake to ewes while suckling is of incalculable advantage both to ewe and lamb: it keeps both in admirable condition, and prepares them for their winter keeping; so that but little loss ensues by death, and the extra produce of wool alone nearly suffices to cover the cost of cake. In the common course of summer grazing it is usual and advantageous to intermix the sheep stock of various ages, but generally the ewes and hoggets of the flock take the inferior pastures of the farm, and the fatting sheep take the stronger and most fattening pasturage. Young cattle, also, and one or two horses in a field, is a good and profitable commingling of the farm stock—the cattle to consume the bents and rougher grasses, the horses to eat up the grass of the coarse furrows, paths, roadways, and the like. As the lambs grow and thrive they eat more, and a change or easing of the pasture must take place. This should be done by selecting all such sheep as appear to have thriven the least, and promote them to a better pasture, or to an eddish or clover aftermath. The summer grazing of lambs ought to finish by about Michaelmas at the furthest, when they should be put to their winter keeping. The ewes will by this time require drafting: those not intended for further breeding purposes to be placed to winter keeping for fatting; the remaining, or breeding ewes, might remain on the pastures, or be run or placed thinly over the stubble fields; in any case taking care that they be kept in a satisfactory and improving state; if otherwise when put to tup, a scanty fall of lambs may be expected in the spring, and those not of the strongest character. These are minor points, but well worth every grazier's attention, as the prosperity of his breeding flock mainly depends thereon.

The Grazing of Fatting Sheep.—Every breeder and grazier is now turning his careful attention to promote the early maturity of his flock. It is now becoming the almost universal custom to accomplish the fatting and the preparation for market of all the sheep stock not required for breeding purposes at an early age. Fattened sheep now seldom exceed twenty-one months, and are only shorn once. If, however, they are kept longer, it is the breeds of larger growth, producing more valuable fleeces of wool, and which are therefore shorn a second time. The Downs of every shade and character are all fattened early. The modern and very valuable breeds of "half-breeds" are all got off early. The Leicesters are also generally fed off at an early age. The Cotswolds and Longwools are perhaps the longest on land, but their immense increase in weight, and the extra quantity of wool they produce, fully compensate for any delay in their final fattening and transmission to market. There are various modes of fatting this sheep stock, according to the precise character of the pastures upon which they are grazed. The best mode on the common grass fattening pastures is this: Let the pasture be laid in for the most part during the winter, or certainly not later than the 1st of February. It will then have time for the soil to lighten, the roots to expand, and the blades of grass to put forth. When it is well greened over, i. e., the grass itself is fairly seen, it is ready for a partial stocking, and a few of the best sheep may be

drafted into it, so that they may be getting forward ready to be sent to market as the pasture requires easing in the summer. As the pasture improves, more may be added, according to the requirements of the pasture; for it must be borne in mind that these fatting pastures must be kept in a true fatting state, or the sheep will not thrive fast enough. They must be kept short, thick, and of one uniform growth of from 1½ to 2 inches in length. No tufts or hassocks must on any account be permitted to accumulate or stand. For this purpose a horse or two in a field, as already noticed, or a few young cattle, as "*benters*," are desirable adjuncts to good sheep grazing; and, if my readers won't smile, I would say a small flock of *geese* would be an additional help to the well-doing of the sheep. They crop the long coarse blades of grass, the buttercups, the sorrel, many weeds, and other not very desirable herbage. Falling all this, the scythe must be used. If the pastures can be kept thus right and nutritious, the sheep will merely require the shepherd's attention, and to be left as undisturbed as possible. They will each, almost to a sheep, soon know his own peculiar place of lairage, and will in equable weather generally resort to it, or near it, and they very seldom require removal to another pasture. Our best sheep-grazing lands will thus admirably fatten the stock put upon them; but should the land and herbage not be of this first class order, then resort must be had to corn or cake to bring them equally forward. It is exceedingly good practice, too, on almost any land, as it not only helps the best lands to fatten them faster, but it enables all lands to carry more stock, and adds greatly to their grazing powers. Grass lands are amazingly improved by this mode of grazing. The writer has about seventy acres of grass land upon which this course has been practised with great success; and if the prices of wool and mutton retain their present rates, he will adopt it upon the grass of his whole occupation. Inferior grass lands have thus been converted into very useful fatting pastures, carrying a large amount of heavy sheep. The number of sheep fattened per acre upon these and similar lands would average about seven light-woolled, and six to seven heavy-woolled sheep; and what is remarkable this year is, that the light wool is not worth so much per lb. as the heavy wool. We are speaking of fatting pastures, not of the general pastures devoted to grazing the breeding flock and store stock: these may be depastured in greater numbers. It is superfluous to remark that these grazing lands must be kept clear of weeds, i. e., thistles, nettles, ragwort, and every other pest.

Not long ago our old facetious friend, "Punch," in the exuberance of his talents for wit and satire, treated his admirers to a familiar portrait of an old-fashioned farmer, in long coat, capacious waistcoat, immense brogues, top-boots to match, and the old broad-brimmed yeoman hat, with hands in his enormous pockets, sadly musing whilst pacing his fields, and at length giving utterance to his thoughts, something like this, "Well, here's a pretty go! I've got so much corn I don't know

what to do with it." Now, if our old friend's hypothetical case is taken to apply to grass, it is really correct; for we, in truth have, in this present unexampled season so much grass, that we "don't know what to do with it"—i. e., we don't know in what way to turn it to the best account. I am afraid my few remarks thereon may be of little avail; for I am in the same happy predicament—"I don't know what to do with it."

I will, however, offer a few suggestions with the view of calling a little attention to it, and, if possible, aid some of my brother graziers in this most unusual difficulty. In the first place, put on all the stock the lands usually carry; but be cautious how you put on more. It may be more advantageous to permit the grass to "run away," rather than to crowd upon it stock bought in at a dear rate at the great hazard of doing well. I say bought in at a dear rate, because it is a matter of course, that when such a great and sudden flush of grass occurs in any season, the price of grazing stock invariably rises. It has done so very considerably this season. The grazier has therefore to use his judgment as to the prospects of profit. He must bear in mind that stock seldom thrive satisfactorily upon a superabundance of highly luxuriant grass. The chances are that he had best adopt a middle course, and which I believe is the general one, to buy in a few extra cattle and a few more sheep, but still carefully avoiding the error of overstocking. Let him suppose this extraordinary flush of grass to pass away; this exceedingly growing weather to cease, and to be succeeded by hot, arid, sunny weather, his pastures gone, and his stock on hand, he will then most feelingly exclaim, "I've got so much stock, I don't know what to do with it." I would again say, be cautious not to overstock. Generally, or on the average of seasons, the customary amount of stock will ere the grazing season closes consume most of the pasturage; and breeding flocks are daily requiring more food. It is always desirable to have plenty; but profusion is certainly an evil in grazing. The stock leave the coarser herbage for the finer spots: consequently these get overeat and bare; the coarser grows still coarser, and in the end has to be cut with the scythe. This of course will readily account for the unsatisfactory grazing of an unusual number of stock.

My next remark or suggestion is, that in preference to buying in stock, an additional portion of grass land should be cleared and *laid in* for meadow to be mown for hay. This I think the best course: as it is a case of emergency, the mowing must be made to depend upon the requirements of the stock. It may not be convenient to allow the field to lay long enough to grow a good crop for hay; it must be mown when requisite, so that the stock does not suffer from too long overcrowding in other pastures. The eddish will be found highly con-

ducive to promote the progress of the poorer or more backward stock, while at the same time it forms an admirable relief to the old grazing land, in taking off the superabundant stock. In this way all are kept progressing; for it is more towards the middle of the grazing season when the stock begin to retrograde, either from heat, fly, bad water, bad herbage, restlessness, or other similar causes; so that the change of the inferior or more backward stock to new pasturage tends to resettle them; and by giving more room and scope to those remaining, they will also graze more quietly, and, of course, improve proportionably. I repeat, then, try for a larger hay-crop: it's very useful in winter.

Another suggestion I would make is, that the roughest plots of grass should be mown in small portions daily. This will keep those places from growing so extremely coarse that no stock will either eat the herbage as grass, or when made into hay; but it being thus gradually mown, the stock delight to pick it up as it decays.

Another suggestion is that, if the field of grass gets very full—"runs away"—then take out all the cattle, and mow the grass, "hob it" over, make it into hay, lead it, and get the field again in readiness for the cattle as soon as possible. Sheep would be best out for a few days; but they don't injure the hay like cattle.

Another suggestion I would make is, to permit a field or two of grass to "run away." These will be found, in the autumn, a highly useful aid, on many farms, to take in the store stock required for consuming the straw in the winter, or in "manufacturing the straw" of the farm into manure for the turnips, &c.

Another suggestion would be, to do the same on farms used solely for grazing, and consume the grass in the winter by a herd of hardy cattle—Scotch, Welsh, Irish, or strong shorthorns.

Another is, that this runaway grass should be stocked with sheep in the winter, to be supplied with mangolds, turnips, &c., *ad lib.*, together with a plentiful addition of cut chaff, hay, and straw.

Another is, that a portion of this rough grass, on a solely-grazing farm, should be left till spring, to take in the grazier's early purchases; so that they may be rested, restored from all the prevalent diseases, and be thus settled and prepared for a more satisfactory summer grazing.

But these minor suggestions will recur to every thinking mind habituated to contrive as best he can for the progress of his business; and he will vary his plans as appears to him most suitable. All I desire, in this short paper, is to call attention to the making of some satisfactory disposition of the abundance with which it has pleased God to supply us.

SUFFOLK AGRICULTURAL ASSOCIATION.

MEETING AT IPSWICH.

This Association, which, on the whole, seems fairly entitled to take the first place among the agricultural societies of the Eastern district, celebrated its twenty-

ninth anniversary on 1st July, at Ipswich. The weather was fine, but not sultry—a fortunate circumstance, as the most devoted admirers of agricultural meetings find

attendance on them when summer is at its height rather hard work, while those concerned in conducting the various arrangements, penning the stock, and getting them to the place of meeting, undergo an amount of labour far beyond the belief of those who have not troubled themselves much about the matter. Ipswich put on her holiday attire for the occasion, and the principal streets were spanned at one or two points with what were meant for triumphal arches, while banners bearing the erst famous words, "Speed the plough," "Success to agriculture," and other appropriate inscriptions, were hung from some of the houses. The inhabitants, as the day wore on, seemed to turn out *en masse*; the streets were filled with well-dressed crowds; and where business was closely pursued as usual, it was because its votaries had no other alternative.

The proceedings of the meeting commenced with an exhibition of Fowler's steam-plough and Smith's cultivator, in a field near the Fonnereau Park, which, as on former occasions, was reserved for the customary entries of stock and implements. The trial of the steam-plough and cultivator, as also of the reapers and mowers, was not conducted with a view to the award of any prize, but in order to interest the district in the problem of steam cultivation; and if one might judge from the steady stream of farmers and others who poured into the field, the idea was an eminently successful one. The trial certainly considerably enhanced the interest of the exhibition. The engine which communicated motion to the plough of Mr. Fowler was of 10-horse-power, and worked at a pressure of about 40lbs. to the square inch; but it was capable of working up to 70lbs. It was quite a new engine, having only been turned out on the preceding day from the extensive establishment of Messrs. Ransomes and Sims, which is one of the main props of Ipswich industry. We understood that the engine and entire apparatus were exhibited as they will be shown in a few days at the great Warwick meeting, and if it works there as well as it did on Friday, it will probably receive an official commendation. The soil was cut to the extent of about six inches, but this depth can be increased to 9½ inches. Three ploughs were comprised in the ploughing apparatus; the progress made over the field was rapid and well sustained, and the amount of work done was estimated at about an acre per hour. Several improvements in matters of detail have been effected in the engine, the arrangements with respect to the windlass having been much simplified; and the entire cost of the whole apparatus, comprising engine, tackle, anchor, 800 yards of steel rope, &c., was stated to be £670. The number of individuals employed were an engine-driver, a ploughman, and three boys to attend to the rope "porters," which support it at intervals, in order to save it as much as possible from being worn unduly by excessive trituration with the ground. The cultivator of Mr. Smith was put in action by an ordinary 7-horse-power agricultural engine, by Messrs. Turner, of Ipswich, the windlass and the remainder of the apparatus being from the establishment of Messrs. Howard, of Bedford. The great object of this apparatus is the getting land

clean in a short time to receive seed, and the soil is broken up, or, to use an expression employed by the lookers-on, "grubbed" in both directions, laterally and longitudinally. The depth to which the cultivator worked was between seven and eight inches, and it was urged that the velocity with which the implement moved disturbed a greater depth of soil than was actually cut. The cost of the cultivator, rope, &c., exclusive of the engine or motive power, was stated to be £206, and the human force employed was five men and a boy, including the engine-driver.

There were four reapers and mowers at work, two by Messrs. Burgess and Key, one by Messrs. Samuelson, of Banbury, and one by Mr. Harwood, of Mendlesham. The latter united the functions of a reaper and mower. The apparatus was constructed by Mr. Woods, of Stowmarket, and it was virtually its first appearance. It attracted some notice, and it was stated that while exceedingly simple and taking up little room, it made a comparatively wide cut. The other machines did their work exceedingly well, and a considerable extent of clover was quickly laid low, the cut being very close and clean, while the seeds were but little scattered. Messrs. Burgess and Key's implements were also set to work on some green wheat, and knocked it down in a most summary and effective fashion. A crowd of farmers followed the machine, but from the speed at which it traversed the ground behind the two powerful horses, they had hard work to keep up. The cut was sharp and clean, and the only regret we heard expressed was, that it was unripe corn which was "operated" upon.

The trial of these implements agreeably occupied the morning, and at noon the general exhibition in Fonnereau Park was thrown open to the public. There was quite a rush at first to obtain admission, and the living stream continued to pour on steadily for some two hours, when the tide began to set in a contrary direction. The park, with its graceful undulating expanse and grand old trees, looked exceedingly beautiful, and as it is at the same time only a few steps from the principal line of street, it would be impossible to find a more suitable place for the meetings of the Society.

The first objects which met the eye of the visitor were the pigs, and he then proceeded by easy stages through the sheep to the stock, and from thence to the horses. The show of swine was about an average, there being 34 entries. As usual, Mr. T. Crisp and Mr. G. M. Sexton figure prominently in this class, but they did not have matters all to themselves, a tolerable amount of competition appearing. A circle gathered round Mr. Crisp's monster sow, which was universally pronounced an astounding porcine "development." Leaving the companions of this extraordinary animal to their peaceful slumbers—the pig appears to adapt himself readily to any circumstances in which he may find himself—the majority of the company soon passed on to the sheep. These were not in very extraordinary force, although 54 entries were made. Mr. Hugh Aylmer was, as usual, victorious with his beautiful Leicesters, which need scarcely be said, looked as well both in respec

to size and wool as at the recent meeting in Norfolk. The Suffolk black-faced breed were also, as was to be expected, represented, but only four gentlemen exhibited them. Mr. G. Dobito took the lion's share of the prizes as regards this class of sheep, of which Sir Edward Kerrison did not speak very highly, as a recent comparison with the Cotswolds led him to infer that while they were more expensive they were less profitable. Mr. Crisp, and Mr. G. Sexton (Wherstead) were successful exhibitors of Southdowns; and the latter gentleman seemed to have called in to advantage one of the Babraham rams. The stock department comprised about 80 entries, and it will be seen that the names of Mr. Crisp—either in connection with Chillesford or Butley Abbey—and Lady Pigot appear frequently in the prize list. The Suffolk bulls and cows were creditable, although one or two of the latter seemed out of condition, and the bones and general anatomy were brought out in rather too distinct relief to please the eye. The heifers of Lady Pigot were very good, and took first prizes in each class. Their names, which it may be interesting to give, were, "Cherry Empress," 3 years old, bred by Mr. Douglas; "Baroness Warlake," two years old, bred by Mr. Outhwaite; and Empress of Hindostan," calved November, 1857, and bred by Mr. Jolly. The red Suffolk heifers and bulls also well sustained the reputation of the county. The fine roan Durham bull, successfully shown by Major Parker, was exhibited at the last meeting of the society at Bury St. Edmund's—at least so said report; but fortune was not then so propitious.

The great feature of the society's exhibitions—and it is a circumstance of which the members are justly proud—is the horse stock, more especially that intended for agricultural purposes. The present meeting was fully up to the mark in this respect, more than half the entries being derived from this department of the show, while the space of ground covered by the animals was very considerable. Of the 307 entries, 134 were of the "agricultural" class. The stallions above three years old were a tolerably good lot, but by no means equal to former years. Neither of the winning horses at Bury were sent, which was to be regretted, as a second comparison would have been interesting. Nor were Barthropp's Hero nor Crisp's Marquis in the ring. In fact, the only "great" horse was Emperor, the winner once more of a special prize of £30, open to all England. He was here pronounced by a high authority to be "almost perfect," and certainly held his own famously; but "all England" did not take up the gauntlet so spiritedly thrown down by the subscribers to the prize. A portrait of Emperor, after an acknowledged good likeness by Corbet, appears in the *Farmer's Magazine* for July. His pedigree and a complete history of the horse accompany the print, from which we take the following description:—"The Emperor is a red chestnut horse, with a few grey hairs shot here and there through his coat. He stands something over sixteen hands high. He has the most beautiful blood-like head perhaps ever seen on a horse intended for 'agricultural purposes.' He has a strong neck and fine crest, good oblique muscular

shoulders, deep girth, and first-rate loins and quarters. His hooks and arms are also excellent; and he has a small but good foot. He stands short on the leg; and this, with his fine quarter, makes him a very lengthy-looking horse, but still with a short powerful back. Emperor is, altogether, one of the most handsome and symmetrical cart-horses ever seen, possessing in perfection those three leading 'points'—great strength, fine quality, and capital action."

The second prize was ably competed for, and was carried off by Mr. Baylham's chestnut horse Duke, while commendations were awarded to four other animals. The three-year-old colts were as a class very good, perhaps the best lot on the ground, and undoubtedly for uniform excellence superior to the aged horses. The two-year-olds were also good, although somewhat few in number. As regards the other classes, the one-year-olds comprised several nice animals; the mares with foals were very good, and the foals fair; and the gait mares and fillies also elicited considerable approval. The cart geldings made up rather a scanty show, but there were one or two good animals. In thoroughbred stallions Capt. Barlow maintained the lead, which he has taken in former years, with Recovery Junior, the winner at this meeting two years since. It would be tedious amid so much excellence to reiterate the adjective "good" in regard to the various other classes; but pedigrees of a few of the prize animals are appended: Mr. Joseph Hare's dark-bay stallion for coaching purposes (Young Sebastopol) was bred by himself, sire Sebastopol, dam's sire Arcos; Mr. Sebborn Gonner's chestnut colt, which received the prize of £5 offered by the Duke of Hamilton, for the best entire cob for riding purposes, was bred by Mr. H. Stearn, sire Man Friday, dam's sire Gainsborough; Mr. J. Gobbitt's dark-brown mare, which obtained the premium offered by the same nobleman for the best cob mare with foal at foot, was twenty years old, bred by the exhibitor, sire Plowman's Phenomenon; Mr. T. Waller's prize brown foal was bred by the exhibitor, sire the Lion, dam's sire Crusader; Mr. W. J. Burch's prize chestnut roan foal was bred by the exhibitor, sire Revenge; Mr. N. Welton's prize chestnut riding gelding, was bred by Mr. T. W. Medcalf, sire Jockey Scott; Captain Barlow's prize brown carriage gelding was bred by Mr. B. Green, sire Castor; Mr. J. Matthews's prize grey gelding Baron, was bred by the exhibitor, sire Castor, dam's sire Old Phenomenon; Mr. Schreiber's prize chestnut riding gelding, two years old, was bred by the exhibitor, sire Oakley, dam's sire Mus; Mr. J. Matthews's chestnut mare Pet was bred by the exhibitor, sire Prickwillow. The scene presented in this section of the exhibition was extremely animated and interesting, worthy in fact the pencil of Landseer or Rosa Bonheur.

The implements occupied the other side of the park, and made a brave show, as no inconsiderable portion of the apparatus and machines which are yearly scattered over the length and breadth of the kingdom, and even find their way to foreign shores, are turned out in Suffolk. Messrs. Ransomes and Sims had a neat little 3-horse-power engine at work, and a more solid affair of

8-horse-power; Messrs. E. B. and F. Turner, another Ipswich firm, sent four engines, ranging in power from two to six horses; and Mr. C. Burrell, of Thetford, and Messrs. Garrett, of Leiston, were also represented in the same direction. All these makers exhibited in their engines an excellence of workmanship justifying the remark attributed to an eminent engineer, who observed that it was as good, as far as it went, as that to be found in railway locomotives. These various engines communicated motion to a number of machines and other implements, and the air was filled with the whirring jargon of sounds generally to be detected at agricultural meetings. Of the other exhibitors, it will be sufficient to give the names:—J. Hurwood, Ipswich; Smyth, Swefling, near Saxmundham; Syer, of Hadleigh (agent for Messrs. Pickley and Sims, Bental, Hunter, Eaton, and Hill and Smith); Cambridge, Bristol; Woods, Stowmarket; Samuelson, Banbury; Burgess and Key; J. Cooper, Ipswich; Smyth and Sons, Peasenhall; F. Mason, Ipswich; Smith and Ashby, Stamford; Hughes and Son (millstones); Prentice and Co. (asphalte floors and cereal manures); E. Rands, Ipswich (sacks, &c.); R. Coleman, Chelmsford; G. C. Ferinan (sacks, &c.); Webb and Son, Coombatannery, Stowmarket, &c.

On the whole we may pronounce the exhibition a decidedly successful one. That it was popular and attractive is proved by the fact that it was attended by between 4,500 and 5,000 persons, a very large number for a county gathering. The judges must have had some difficulty in making their awards, amidst so much excellence and such a comparatively numerous body of exhibitors. Their decisions are embodied in the following list—

AGRICULTURAL HORSES.

JUDGES.—J. Claydon, Littlebury, Saffron Walden.

—King, Preston.

—W. C. Spooner, Eling, Southampton.

—Spurling, Shotley, Ipswich.

Special Ipswich prize of £80 for the best entire horse for agricultural purposes, of any age (open to all England), G. D. Badham, Bulmer, Essex (Chester Emperor).

First prize of £10 for the best stallion, having served not less than twenty mares in the county, G. D. Badham (Chester Emperor).

Premium of £5 to the breeder of first prize, G. D. Badham. Second prize of £5, W. Wilson, Baylham Hall (Duke).

Highly Commended.—Joseph Smith, Hasketon (Raglan). *Commended*.—W. Clark, Iken (Briton); W. H. Mumford, Bramford (Captain); and W. Stearn, Elmsett (Prince).

First prize of £6 for the best three-year-old entire colt, James Everitt, Brightwell (Premier); second of £5, T. Crisp, Butley Abbey (Emperor).

Highly Commended.—C. Barnes, Kettleburgh (Champion).

Prize of £5 for the best two-year-old entire colt, Maurice Mumford, Creeting; second of £4, R. H. Winch, Harkstead (Comet); third of £3, T. Crisp.

First prize of £4 for the best one-year-old entire colt, Sir E. C. Kerrison, M.P. (Red Eagle); second of £3, Samuel Plowman, Earl Stotham.

First prize of £6 for the best mare with foal at foot, G. D. Badham; second of £4, Charles Frost, of Wherstead.

Highly commended.—Isaac Rist's cheanut (Scott); and Mr. S. Wolton's cheanut (Diamond).

Commended.—R. Tricker (Poppet); N. G. Barthropp (Gyp) Saml. Plowman; and Joseph Smith, Hasketon (Diamond).

First prize of £6 for the best foal, Francis Keor, Raydon; second of £4, T. Crisp.

Highly commended.—Joseph Smith.

Commended.—George Sexton, Wherstead; Rev. J. Y. Cooke, Semer.

First prize of £6 for the best gait mare, E. G. Hodgson, Charsfield; second of £4, Henry Laws, Kirtton Sluice.

Commended.—Sir E. C. Kerrison, M.P.

First prize of £6 for the best three-year-old filly, T. L. Tiffen, Siamhall, Newton; second of £4, N. G. Barthropp, Creetingham (Remnant).

First prize of £5 for the best two-year-old filly, L. Winch, Arwarton (Diamond); second of £3, Charles Frost, Wherstead.

Commended.—Capt. Barlow, Hasketon; Rev. J. Y. Cooke, Semer; H. Frost, Witesham; E. L. Glead, Hoo; H. Laws, Kirtton Sluice; and J. Rist, Tattingstone.

First prize of £4 for the best one-year-old filly, S. Walton, sen., Newbourne Hall; second of £3, Charles Frost, Wherstead.

Highly commended.—Charles Frost, Wherstead.

Prize of £4 for the best three-year-old cart gelding, E. L. Glead, Hoo.

Highly commended.—C. Cordy, Trimley.

Prize of £4 for the best four-year-old cart gelding, Charles Frost, Wherstead.

Prize of £4 for the best cart gelding of any age, J. Gentry, Washbrook.

Highly commended (class not stated in official list).—J. Gobbett, Sudbourne.

RIDING AND COACHING HORSES.

JUDGES.—C. Barnet, Stratton Park, Biggleswade.

E. Green, Bury St. Edmund's.

Rev. C. T. James, Farmers' Club, London.

J. Tyler, Leyton, Essex.

Prize of £6 for the best thorough-bred entire horse, having served not less than 10 mares in the county, Capt. F. Barlow, Hasketon (Recovery Junior).

Prize of £6 for the best entire horse for coaching purposes, having served not less than ten mares in the county, J. Garrod, Cransford.

Prize of £5 for the best entire cob for riding purposes, having served not less than ten mares in the county, Sebborn Gonner, Hoo.

Prize of £5 for the best cob mare with foal at foot, the foal to be by a cob horse not thorough bred, J. Gobbett, Sudbourne.

Prize of £6 for the best brood mare with foal at foot, W. J. Burch, Campey Ash.

Commended.—G. Gayard (Fireaway), and J. Josselyn, jun.

Prize of £6 for the best foal for riding purposes, foaled in 1859, W. J. Burch.

Prize of £6 for the best foal for carriage purposes, foaled in 1859, J. Waller, Sutton.

Silver Cup, presented by Captain Barlow, for the best foal by either of the Hasketon stallions, W. J. Burch.

Prize of £6 for the best three-year-old riding gelding or filly, foaled in 1856, N. Welton, Bredfield.

Highly Commended.—G. K. Cooper.

Prize of £6 for the best three-year-old carriage gelding or filly, foaled in 1856, Capt. F. Barlow.

Prize of £6 for the best three-year-old weight-carrying hunter, gelding or filly, by a thorough-bred horse, foaled in 1856, James Matthew, Wickham Skeith (Baron).

Highly Commended.—W. J. Burch.

Prize of £5 for the best two-year-old riding gelding or filly, foaled in 1857, C. A. Schreiber, Roundwood, Ipswich.

Highly Commended.—H. Frost, Witesham.

Commended.—W. J. Burch.

First prize of £5 for the best hackney mare or gelding under seven years old, J. Matthew, Wickham Skeith (Pet); second of £3, F. Laws, Foxhall.

First prize of £4 for the best pony, not exceeding 13½ hands high, and not under 12, T. Crisp; second of £2, G. Bond, Earl Soham.

CATTLE.

JUDGES.—W. Beauford, Bedford.

H. W. Bennet, Cambridge.

W. Carpenter, Stratford-on-Avon.

W. Dodds, Keelby, Lincolnshire.

Prize of £6 for the best Suffolk bull not under two years

old, Samuel Wolton, sen., Newbourne-hall (Robinson); second, of £3, A. Crisp, Chillesford.

Prize of £4 for the best Suffolk bull under two years old, Jas. Read, Laxfield (Young Suffolk); second, of £2, Arthur Crisp.

Prize of £8 for the best bull of any other breed (not Suffolk) not under two years old, Major Parker, M.P., Clopton-hall, Rattlesden; second, of £3, T. Crisp.

Prize of £4 for the best bull of any other breed (not Suffolk) under two years old, T. Crisp; second, of £2, T. Crisp.

Prize of £5 for the best Suffolk cow in-milk or in-calf, Samuel Wolton, jun., Kegrave (Beauty); second, of £3, Samuel Plowman, Earl Stotham; commended, James Read, Laxfield (Jeuny Lind); W. R. Walker, Marlesford.

Prize of £4 for the best three-year-old Suffolk heifer in-milk or in-calf, A. W. Crisp, Chillesford; second, of £2, A. W. Crisp.

Prize of £4 for the best two-year-old Suffolk heifer in-milk or in-calf, A. Crisp; second, of £2, A. Crisp.

Prize of £2 for the best one-year-old Suffolk heifer, J. Garrould, Cookley; second, of £1, B. Collins, Hunston.

Prize of £5 for the best cow of any other breed (not Suffolk) in-milk or in-calf, Sir E. C. Kerrison, Bart., M.P., Oakley-park (Violet); second, of £3, Lady Pigot, Chippenham-park (Lady Sarah); commended, Walter Strutt, Boxford.

Prize of £4 for the best three-year-old heifer of any other breed (not Suffolk) in-milk or in-calf, Lady Pigot (Cherry Empress); second, of £2, T. Crisp (Gaiety II.).

Prize of £4 for the best two-year-old heifer of any other breed (not Suffolk) in-milk or in-calf, Lady Pigot (Baroness Warlike); second, of £2, T. Crisp.

Prize of £2 for the best one-year-old heifer of any other breed (not Suffolk), Lady Pigot (Empress of Hindostan); second, of £1, T. Crisp (Nelly II.).

Prize of £4 for the best fat ox or heifer, A. W. Crisp; second, of £2, George Hare, Holbrook-cottage.

SHEEP.

JUDGES.—W. Beauford, Bedford.

H. W. Bennet, Cambridge.

W. Carpenter, Stratford-on-Avon.

W. Dodds, Keelby, Lincolnshire.

Prize of £8 for the best Southdown tup of any age, T. Crisp.

Prize of £8 for the best shearing Down tup, George Sexton, Wherstead; second, of £2, G. Sexton.

Prize of £8 for the best tup of any age of the black-faced breed, now named "The Suffolk," G. Dobito, Lidgate.

Prize of £8 for the best shearing tup of the Suffolk breed, G. Dobito; second, of £2, J. M. Green, Stradishall Old House.

Prize of £8 for the best long-woolled tup of any age, T. Brown, Marham.

Prize of £8 for the best shearing long-woolled tup, H. Aylmer, West Dereham; second, of £2, H. Aylmer.

Prize of £8 for the best pen of five Southdown shearing ewes, no entry; second, of £2, no entry.

Prize of £8 for the best pen of five shearing ewes of the black-faced breed, now named "The Suffolk," G. Dobito; second, of £2, J. M. Green; commended, H. Wilson, Stowlangtoft-hall.

Prize of £8 for the best pen of five long-woolled shearing ewes, H. Aylmer; second, of £2, H. Aylmer.

Prize of £8 for the best pen of 20 lambs of any breed, G. Sexton; second, of £2, not awarded.

PIGS.

JUDGES.—W. Beauford, Bedford.

H. W. Bennet, Cambridge.

W. Carpenter, Stratford-on-Avon.

W. Dodds, Keelby, Lincolnshire.

Prize of £5 for the best boar, T. Crisp; second, of £3, G. M. Sexton.

Prize of £4 for the best sow and pigs, the pigs not exceeding 12 weeks old, Herman Biddell, Playford; second, of £3, Spencer Freeman, Stowmarket.

Prize of £3 for the best breeding sow, T. Crisp; second, of £2, James Luff, Tuddenham.

Prize of £3 for the best pen of three young sows, pigged since 1st of November, G. M. Sexton; second, of £2, H. Wil-

son, Stowlangtoft-hall; commended, G. D. Badham, and M. Biddell, Playford (for two pens).

At the annual meeting of the members held in the course of the afternoon it was agreed to hold the next meeting at Framlingham.

THE DINNER

took place in the evening, in the Corn Exchange, where tables were laid out for 300 guests. Only about 200, however, took places. The Earl of Stradbroke, as president of the society, presided, and was supported right and left by Sir Charles Rowley, the Mayor of Ipswich (Mr. J. Head), Sir Fitzroy Kelly M.P., Lord Henniker, M.P., Earl Jermyn, M.P., Major Windsor Parker, M.P., Mr. J. Cobbold, M.P., Mr. T. Barch Western, Col. Shafte Adair, Mr. Barthropp, Mr. Badham, Mr. Barnett, Mr. A. Ransome, and other gentlemen. The vice-chair was occupied by Sir E. C. Kerrison, M.P., by whom were seated Capt. Barlow, Capt. Bennett, Mr. Josselin, &c. The dinner arrangements left no cause for complaint; but the subsequent proceedings, although they extended over three hours, were, with the exception of two or three speeches, of which a report is appended, tame and unprofitable as regarded from an agricultural point of view.

The VICE-CHAIRMAN proposed the health of the noble president, Lord Stradbroke. Sir Edward observed that upon no occasion had the association shown more effectively what local societies were capable of doing. The merits of the stock were conspicuous, and many of the members had for the first time had an opportunity of witnessing the progress made in steam-ploughing.

The PRESIDENT, in expressing his acknowledgments, said, the popularity of the Society was patent to all, and he believed the smaller farmers of the county had benefited greatly by the example set them by the members in their various districts. Distinguished foreigners in every part of the world had approved and imitated British agricultural enterprise; and the result had been that the food of the poorer classes in Europe had been improved, and that they received more constant employment than they obtained before agriculture became a fashionable pursuit. With reference to the show held during the day, it appeared to have received universal approbation; and he had observed with pleasure a thrashing machine by Messrs. Garrett, in which considerable progress had been made in the way of simplification of the machinery, and reduction of size. This was important, because many specimens of agricultural machinery were too bulky and intricate in their performance. In conclusion his Lordship proposed what we suppose may be regarded as the toast of the evening, "Success to the Suffolk Agricultural Society."

The healths of the "High Sheriff" and the "County Members," followed.

Earl JERMYN, M.P., responded, as did Lord HENNIKER, M.P., who remarked, that although the men of Suffolk were most excellent farmers, he had heard complaints made with reference to the cultivation of pastures. Dean Swift had, he believed, observed that he was the most useful man who made two blades of grass to grow where one grew before. It was a trite observation, but one which ought not to be forgotten; and when the fact was remembered that every foot of ground comprised from 500 to 1,000 roots of grass, while there were 4,000 sorts of grass, scarcely one poisonous in its nature, he thought it behoved agriculturists to make experiments on the subject, and to devote greater attention than had hitherto been given to their grass lands. With this view he should be happy to give a small premium for a short essay on the improvement and the cultivation of the grass lands of the county.

Sir FITZROY KELLY, M.P., who was warmly cheered, called attention to the efforts which he had been making, with other distinguished members of the bar, to carry a bill for facilitating the transfer of land, a measure which would, he believed, have the effect of raising the value of landed property at least 25 per cent. The bill had met with great opposition from members of the legal profession; but in view of the benefits which it promised, and having regard also to the beneficial operation of the Encumbered Estates Court in Ireland, he appealed to the public to express their approval of the measure, and to bring their influence to bear upon the members of the legislature so as to secure its enactment.

Major PARKER, M.P., also returned thanks, and, advertising