

THE  
AGRICULTURAL MAGAZINE.

No. LXIV.] NOVEMBER, 1804. [VOL. XI.

JAMES WELDON, FOR HIS FURTHER NEWLY INVENTED MACHINE, OR MILL FOR GRINDING BARK, AND VARIOUS OTHER ARTICLES, FOR WHICH HE OBTAINED FORMER LETTERS PATENT, AND WHICH MACHINE, OR MILL SO IMPROVED, MAY BE APPLIED TO SEVERAL OTHER USEFUL PURPOSES.

TO all to whom these presents shall come, &c. Now know ye, that in compliance with the said proviso, I, the said James Weldon do hereby declare my invention of certain new improvements on my said machine, or mill for grinding bark, for tanners, that the same improvements extend to all kinds of cylindrical steel mills, for the purpose of grinding wheat, malt, or any other kind of grain, and may be applied to various other useful purposes. I describe the same as follows:—my former method of constructing mills for grinding bark, is chiefly of cast iron, the teeth or cutters thereof cast with them, and the method of keeping them sharp, or renewing their teeth, is to chip or cut them with a hammer and chissel; and the method of making and constructing what are commonly called steel mills for the purpose of grinding malt, &c. are chiefly made of malleable iron, case hardened, the teeth of which are cut, or raised out of the solid, by means of chissels and files, and are kept sharp by the same method. But in order to avoid these difficulties, and *make* them more durable and lasting, and that the user of such mills or machines may be able to sharpen his own mill or machine, and keep the same in repair without sending them to the maker, I have constructed them with loose or moveable teeth which may be taken out at any time, and by grinding them on a common grinding-stone, may be sharpened and kept in order, or by replacing the teeth, should they wear out; the machine will then be as good as new, and to shew the nature of my invention, I have added drawings on the opposite side hercof, but as the principle of the machine, or mill for grinding bark, is the same as that of my former patent; it is not necessary to describe any more of it than the manner in which the loose teeth are to be fixed, which may be the same as that described in the drawing for a corn mill; or by any other method I may think most proper. Figure I. represents the different parts of a mill for grinding bark, corn, &c. and the manner in which it is constructed. A, is a hopper, made of wood, tin, or sheet iron, which receives the corn, or any thing that is to

be ground. B, is the axis of the ball, or inner part of the mill, which may be made of wrought or cast-iron. C, is a conical covering, which prevents the materials to be ground from lodging on the cap, which may be made of wood, tin, or sheet-iron. D, D, is a loose cap which fastens and secures the loose teeth of the ball, or inner part of the mill, by means of four screws represented by h. E, represents one side of the ball or inner part of the mill, filled with teeth. G, shews one-half of the inner part of the mill without teeth, wherein may be seen the manner in which the teeth are kept in their places. d, d, shews the substance of the metal, which is of cast-iron. H, H, shews the bottom flang that holds the teeth, and is cast with the body part of the cone. a, a, a, shews the outer cylinder, which is cast altogether, and shews in what manner the loose teeth, F, F, are fixed in it. I, I, is a flang which fastens or holds the loose teeth of the outer part of the mill and by means of six screws, as shewn by figure 3d. K, K, is the bridge which carries the inner part of the mill, and is fastened to the outer cylinder by means of two screws c, c. L, is the lower part of the axis. M, is the brass step on which the axis works. N, is a place in which the regulating screw works, and is made of wrought-iron. O, the regulating screw. Figure 2d represents the under side of the outer cylinder with the bridge K, and the box which contains the brass step M. Figure 4th, represents one of the loose teeth on the outer part of the mill. Figure 5th, represents one of the teeth on the inner part of the mill. These teeth may be made of cast-iron, wrought-iron, or steel, or any metal or materials that may be thought most proper. These mills or machines are not confined to any precise form or shape, and may be made of any metal or materials I may think most suitable; they may be worked either as hand-mills, or horse-mills, or by any other power that can be applied to them. In Witness whereof, &c.

#### ON THE SMUT IN WHEAT.

*To the Editor of the Agricultural Magazine.*

SIR,

I WAS well aware when I wrote my last letter in your Magazine, that it might be referred to by some of your quick-sighted correspondents. I now see it is by Agricola Northumbriensis, who says, "The smut in wheat being very prevalent this year, will furnish its adversaries with a powerful argument: for, on the lands of farmers who take equal pains, in all seasons, in chusing and preparing the seed, we cannot on this hypothesis account for the greater prevalence of smut in one year than in another:" now, after

admitting (as I think A. N. has in his letter) that the cause of the smut in wheat is impure feed, I do not think it at all difficult to "account for the greater prevalence of smut in one year than in another." Can any man suppose that an equal quantity of this infected or impure feed is sown every year; perhaps in some years there is as much more of this impure feed as in others; and if there is as much more sown, why should there not be as much more reaped? As to chusing, I believe no farmer can tell with any certainty whether the feed will produce smut or not, but it is the general opinion amongst farmers, that wheat which has got smut balls in it, will produce smut again; this I am confident is generally, but not always the case. I once prepared some very good clean wheat entirely free from smut-balls, to sow a small field of three acres, and not having enough prepared to finish the field, I sowed five lands on one side of the field with wheat, which grew with the other, and was thrashed and cleaned together, but without any preventative whatever; at harvest there was many ears of smut on the five lands, but none on the other part of the field; this I mention as an exception to what I have said above on chusing the feed; but I might reasonably ask, how the blight could be the cause? Whether I have accounted "for the greater prevalence of smut in one year than in another," your correspondents and the public will decide.] Your correspondent L. L. has rather doubtingly, yet with some good nature, referred to my proceedings on this subject, and to him I must make some reply: he says, "I will acknowledge, most willingly, that Mr. Dowlen acts, *bona fide*, and really believes himself in the verity of that which he intends to recommend to the public;" can any man say otherwise after he has seen my advertisement, where I offer receipts at twenty shillings each, and if they are not found effectual, I return the whole of the money again, any time before the first day of August, 1806: Surely can this be "imposing on public credulity?" He further says, "it ought to be his business first, and will be that of the farming public, ultimately to discover whether he radically understands what he is about," to part of this I willingly say, Amen; and can assure L. L. that my proceedings have not been the result of theory, but of practice and observation; and as a proof that my method is not thought very light of, several farmers which I acquainted with it long ago, have, since my advertizing, all (except one) honourably subscribed. I could have called in the aid of a farmer who has farmed more than half a century, and in the whole course of his business has alternately made experiments on the smut in wheat, and his experiments nearly correspond with mine, which makes me still more confident in my proceedings.

L. L.'s. "having had occasion to smile at the blight\* and mildew upon the arseniated and brined part of the wheat, when that which was left destitute of all preventative has flourished in a state of the utmost purity and soundness," I think may be easily accounted for, for I am far from thinking that all wheat will produce smut if sown without a preventative; a farmer may sow wheat several years without any preparation, and by chance have no smut; and as I am certain that nearly, or perhaps quite half of the remedies used as a preventative, are things foreign to the purpose, and by far the major part of the other half are rendered ineffectual by improper application, which very probably might be the case with the wheat at which L. L. "had occasion to smile." I shall now mention one experiment, and leave it to L. L. for him "ultimately to discover whether he radically understands what he is about." I sowed five acres of clean summer fallow (well manured with lime) which wheat was thrashed and cleaned together, and which had a considerable quantity of smut-balls with it; this wheat I divided in two parts, the part which I had good reason to think would produce smut, I sowed in a square in the middle of the field; the other part of the field I sowed with the other part of the wheat, and at harvest the square in the middle of the field was full half smut, but there could not be one ear of smut found on the other part of the field; on this, and other facts similar to this, I have penned my faith; and all that I have seen and heard on the blighting system, has served only to confirm my belief. I believe no practical farmer can make it appear how the blight was the cause of the smut in the above experiment, nor do I think it can be made appear, that there is no effectual remedy.

Your obliged servant,

*Falmer, near Lewes,  
Nov. 15, 1804.*

E. DOWLEN.

\* I suppose L. L. means the smut.

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ON THE COMPARATIVE AGRICULTURE OF  
ANCIENT AND MODERN SPAIN.

*To the Editor of the Agricultural Magazine.*

SIR,  
MY sentiments may be a little singular, but with the exception of my native land, from early education, habits and prejudices (which I am disposed to call opinions); there is no country in Europe about which I am more solicitous, than the celebrated peninsula of ancient Tarraconensis. I have seen with great pleasure the introduction into your last Number of some observations on the productions of that country, to which nature has been so indulgent. I have thought, therefore, it

would be acceptable to you, if I were to communicate an account of the cultivation of Spain by the ingenious Arabs, for it is a lamentable truth, that from the time of the expulsion of that people, during the iron reign of Ferdinand, not only improvement has been impeded, but crab-like, science and cultivation have taken a retrograde direction, until they are lost in the labyrinth by which they are encompassed.

The number of plants, and the several means employed in the cultivation of them, seem to be the objects to which we should attend in considering the agriculture of two different nations, to make the varieties, and ascertain the approach to perfection to which each has arrived. The first of these views shews the resources which each possesses in the cultivation of the earth; the second discloses the lights which have assisted their labour; both in short give us the quantum of assistance they have received from nature and art.

In the first of these points, the superiority of the Arabians seems incontestible, if we except those plants brought from America, of which that people were ignorant; such as the potatoe, the cocoa tree, &c. which were introduced into Spain after the time of Ferdinand. With these exceptions the Arabians cultivated not only what we do now, but many other useful vegetables.

There are at this time sugar canes growing at Motril, near Malaga, and there is a sugar refinery near that city, but both the culture and the manufactory are more objects of curiosity than of profit: The Spanish merchants hardly know of their existence; and before the establishment of the sugar works in the island of Cuba, about forty years since, they were obliged to import the whole of their consumption in that commodity. In the forty-seventh article of the seventh chapter of Ebn-el-Awam, it is stated, that the sugar-cane was cultivated with success in the south of Spain; and the growth of this article seems to have been very general, as no less than three Arabian writers, at that time in Spain, have treated of the kind of soil best suited to its cultivation; and also the mode of extracting the sugar from the cane, is particularly treated of by Abn-el-Jair, of Seville; this plan nearly resembled that at present adopted in the American colonies.

The unwholesomeness of the rice fields is well known, and the excessive fatigue that the management of this grain occasions, is expensive and dangerous, and injurious to the constitution. Naturalists are aware that all kinds of rice do not require that the land, while it is growing, should be under water. In Cochinchina, various parts of India, and in China, a variety is cultivated which only needs watering like any other vegetable. The friends of the human species, and of agriculture, have long wished to acquire this kind of rice. The English

have made some experiments which the nature of their climate prevented from succeeding; and there have been published in works devoted to agriculture, some accounts of experiments on rice made by Sir Joseph Banks\*. Let us turn our attention to the twentieth chapter of *Abn-el-Awam*, and judge whether it is the common rice, or this variety of which he describes the culture. It seems by his account to require only the same attention that is generally given to garden vegetables, and he even advises not giving it too much water, as by that means the crop would suffer; and he says, that as long as the mould continues tolerably moist it requires none. Towards the end of the article, however, in giving the method of growing rice which is adopted by *Nabathéenne*, we find an account of rice fields, such as we are acquainted with on the banks of the *Euphrates*.

The *Sesamion*, the seed of which produces a great quantity of sweet oil, is an article anciently cultivated in the east, and in Greece; and we find in *Homer*, that it was used in cakes, and in other food which was called by this name. *Muratori*, in his "*Felicità Publica*," has very much recommended its introduction into Italy. The fifth section of the twentieth chapter of *Abn-el-Awam*, treats of its culture, and we find, by a number of passages in this book, that the Spanish Arabians made this oil. It is hardly at all grown now there.

Cotton cannot be considered as a produce of modern Spain: if it is any where cultivated, it is more as an object of curiosity than commerce. It appears by the first division of the twenty-second chapter of *Abn-el-Awam*, that it was quite otherwise in his time, at least in the maritime provinces of the *Peninsula*.

The *Pistachia* tree is almost unknown in our time in Spain: they are, however, the subject of the fifteenth article of the seventh book of our *Agriculturist*. The Spanish Arabians had two varieties, they grafted them upon other trees, and renewed the natural connection between pistachio tree, the terebinthus or turpentine tree, and the lentisk or mastic tree.

The *Banana* tree also they are now ignorant of in Spain. The Arabians, as we see by the forty-eighth article of the seventh book, were successful in the growth of it. They obtained clusters of fruit of from ten to fifty pounds weight. We find by the account of the cultivation of this plant, that they were acquainted with the means of guarding delicate plants from the rigour of the frost by mats and other artificial means of protection.

\* Our readers, by referring to Vol. 10. p. 275. will find that we have thought this subject required particular attention, and have extracted an article from the transactions of the Society of Arts, Manufactures, and Agriculture, to invite their attention to this important discovery. E.

Among the different objects of their attention, several instances shew that they had attained to a high degree of skill in improving wild plants, and rendering them useful; from these I shall select a few examples. The ninth article of the twenty-second book treats of the growth of the Chuk-el-duhain, a plant which they have in a wild state. According to Ben-el-Beithar (a botanist much esteemed by the Arabians) this thorny plant, which belongs to the class of thistles, was used as food for the camels. Its head was an agreeable vegetable for human food, and its seed was also nutritive, and very much used by the Christians on their fast days. There is nothing at all resembling it produced in Spain at present.

Asparagus, with which we are acquainted, has not been long introduced into that soil, and it is not, even now, nearly so common as it is in France. It is called Aranjuez, instead of asparagus, by which it is evident, that it is only a dish for the royal table\*. Many people, however, eat a species of this plant in its wild state that has a pleasant taste, though a little bitter, and which grows spontaneously, but very few think of improving it by culture; it is the asparagus albidus of Linnæus. In the eighteenth article of the twenty-eighth chapter, are enumerated the different uses the Arabians made of this plant, which they brought from its native forests to grow in their gardens.

Some other articles respecting the agriculture of the Arabian Spaniards shew also, that they tilled, so as to render profitable, every species of land, and even the banks of stagnant water. For this purpose, they reared the curacas, or the arum-colocasia of Linnæus, which is the subject of the ninth division of the twenty-fourth chapter. It is well described, and its large bulbous root was employed as food, raw as well as boiled. Nations driven to the highest improvements in agriculture, by the rapid progress of population, are the only ones, I think, that know how to render productive morasses and swamps. The naturalist, Osbeck, has observed, that the Chinese did the same, and that they cultivated in bogs a variety of the Fléchière, or Sagitaria Sagittifolia, the bulbs of the root of which are as large as potatoes, and as nourishing.

Other plants that are not now found in Spain, were adapted to the taste of the former inhabitants, of eastern extraction, and it may be easily imagined, that they did not survive the change in the state. Such are among others the Sebestina, of which he treats in the thirty-third article of the seventh chapter, and also the privet, and the mahaleb or wild cherry.

\* Aranjuez is the name of one of the royal palaces of Spain, and the name therefore is probably derived from its being first grown in the beautiful gardens of that establishment. We visited the grounds devoted to horticulture at that beautiful village, about the year 1780; and we certainly do not recollect seeing this vegetable. E.

The privet\*, (*Lawsonia inermis* of the botanists) is a shrub or small tree, the leaves of which are highly valued by the Oriental women. The decoction of it gives the nails and hair a colour which they prefer to all others. They constantly use it, and the leaves of the privet are sought by the females of the Arabian desert, as well as those in civilized life. The Spanish women, when the Arabians were in that country, consumed a vast deal, and it is wonderful the pains they took to cultivate this shrub. Abn-el-Awam confesses that the climate of Seville is too sharp for the privet, which requires a hot country, and which, according to him, flourishes best in Abyssinia. It perishes, during the winter, in Spain; and as the leaves are the only part in estimation, it had become there an annual plant. The earth, for its cultivation, was very carefully broken; the seed was sown, after having been kept in water two or three days to swell it, and to cause it to vegetate more quickly: At the end of summer they gathered the leaves and drew up the stalks, and the next year they sowed a new crop.

Would modern cultivators have been able to have adopted a better method? Many plants that have been brought from the hottest climates, flourish in the north as annuals, provided they grow sufficiently fast to come to perfection in the course of the summer.

The Mahaleb, or wild cherry, is a tree very highly esteemed by the inhabitants of the east. It is unknown in our climates, but in theirs the fruit comes to perfection. They mix it with their bread, to which it communicates an agreeable taste, even to the European palate. It is steeped in oil, to which it imparts an agreeable smell. Kutfami, among other things informs us, that the king Feycala, was particularly fond of this tree, of which he treats in the twentieth article of the twenty-eighth book of Abn-el-Awam.

Such were the plants which flourished in Spain in the time of the Moors, the cultivation of which has been almost wholly abandoned. The catalogue might have been much more extended, but, Mr. Editor, you will perhaps consider I have already transgressed the bounds to which I ought to be prescribed. Your readers will, however, with this defective list before them, I think, be completely satisfied, that the followers of Mahomet cultivated a much greater variety of plants than the modern Catholics, which is the first proposition I designed to examine. In my next letter I shall not enquire into the production of nature, but discuss the expedients of art, which have been contrived in ancient and modern Spain, to promote her benevolent designs.

I am, Sir, yours, &c.

OZ. 29, 1804.

AMIGO DEL PAIS.

\* It will be obvious, from the subsequent description, that the common Privet which endures the severity of an English winter, cannot bear any relation to the plant here alluded to.

ON THE EFFECTS OF THUNDER ON  
VEGETABLE PRODUCE.

*To the Editor of the Agricultural Magazine.*

SIR,

**I**N your last publication I noticed some singularities remarked by your ingenious correspondent who calls himself "An Oddity;" and in consequence have been induced to communicate the subsequent remarks:—From a passage in the Fifth Satyr of Juvenal, we understand that the Romans had an idea that the best mushrooms came from Africa, and that those mushrooms emerged immediately after thunder. It appears also that they supposed the thunder (or rather the lightening accompanying it) to blast the corn; and that in years when many mushrooms were imported from Libya they received but little grain from thence.

The passage above alluded to occurred to my recollection a few days since on observing the extraordinary number of mushrooms and of fairy-rings that have appeared this season. Some inclosed pastures, and some particular parts of commons, are reticulated very thick with these rings; and on some rings edible mushrooms vegetate, and on others only toad-stools.

Before the wheat was cut, I remarked that in some inclosures, and in some particular parts of common fields, the plants were considerably blasted.

More thunder has occurred this last summer than ever occurred in any preceding one within the period of my remembrance. In the summer of 1803 the thunder-storms were slight and few, the crops of corn were generally fine, and mushrooms were scarcely procurable.

These facts I communicate to you, for your correspondents to compare and elucidate; and, as storms have been as frequent this year in other countries as in Britain, I hope some of your foreign friends may be excited by this communication to acquaint you and your British readers, whether the circumstances I have noted respecting corn, mushrooms, and fairy-rings, have been observed in the parts under their observation.

I am yours, &c.

Nov. 1, 1804.

F. B.

ENQUIRY RESPECTING SKEGS.

*To the Editor of the Agricultural Magazine.*

SIR,

**I**N your last number (63,) for October, I observe a Letter from George Nevil, Esq. in which he very much extols Skegs. I am a practical farmer to a considerable extent; I shall, with God's blessing, soon occupy upwards of 1000 acres of my own freehold property. I therefore hope one day to be able to transmit to you some valuable information. At

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present, however, I must request you to procure a little for me through your Magazine, and shall therefore think myself obliged to you to allow me to beg the favor of some of your correspondents to give a more particular account of Skegs, their cultivation and their use, whether as green food, (if they are ever used as such,) as corn, or dry provender.

I am, Sir, your most obedient servnat,  
Nov. 12, 1804. AGRICOLA BAGGRAVENSIS.

### ON THE SMUT IN WHEAT.

*To the Editor of the Agricultural Magazine.*

SIR,

Nov. 14, 1804.

THERE have been many disputes amongst philosophers and practical husbandmen, as to the cause of the smut in wheat, and the best modes of prevention. That disease has this year been much more injurious than for many seasons past; and I have, with much pleasure, observed communications upon it, in your late numbers. The mode recommended by Agricola Northumbriensis, is undoubtedly practised to a much greater extent than any other. Nay, if I were to assert that it, (and that of using water strongly impregnated with common salt, instead of chamberlye,) is pursued by 18 farmers out of 20, probably I should say no more than the truth; and, as the results of experience, *in agriculture especially*, are much safer guides than theory and speculative opinions, its great utility cannot be disputed.

It strikes me forcibly, from my own experience, the result of the comparative experiment in your last number, and several other accurate trials, that smut in wheat proceeds from the seed. To prepare the seed, therefore, seems rational. Experience confirms the idea.

Those diseases called blights and mildew, are, probably, different from smut, and proceed from unfavourable weather. No experiment that I have heard of, has furnished reason for any other conclusion. What advantages then, can be expected to result from preparing the seed, (by any mixtures or articles whatever,) in preventing those maladies?

Not having the number which contains Mr. E. Dowlen's letter on the diseases of wheat, I cannot, at this moment, recollect whether he considers smut as a disease of a different nature from blight and mildew. I am inclined to think, however, that he is not sufficiently explicit on that head; and therefore, I hope he will, in an early number, more fully communicate his sentiments.

In your Magazine for September, your Nottingham correspondent, K. Y. speaks of blight only, and mentions "an

expedient first employed in Yorkshire with great success." That expedient I also have heard of; I did not, however, understand that it was employed to prevent *blight*, but *smut*. There appears to have been some confusion of ideas in the *sources* of certain papers in your Magazine, on the diseases in question. Does Mr. Dowlen, or K. Y. consider blight and smut as synonymous terms, or diseases proceeding from the same cause?

I repeat that I have never seen, or heard of, any good reason for concluding that the diseases I have mentioned, proceed from the same cause, and if blight really proceeds from the state of the atmosphere when the plants are in a certain stage of their growth, (which I am at present inclined to believe,) I will say, with Mr. Lawrance in the *New Farmer's Calendar*, that to steep or prepare the seed with a view of preventing that disease, "is a proceeding equally sage, and entitled to equal success, as if a man should apply to Dr. Brodum, or any other doctor of equal celebrity, for a medicine to be taken at gunpowder treason in order to cure a cold which may possibly attack him the Michaelmas next ensuing."

In expectation of seeing this intricate and important subject more fully investigated in the pages of your valuable miscellany,

I am, Sir, your constant reader,

ARATOR.

### THE AGRICULTURE OF KAMTSHATKA.

*To the Editor of the Agricultural Magazine.*

SIR,

YOU have discussed in your Magazine the Natural History and Agriculture of a great variety of districts of the habitable globe, but I do not recollect that you have introduced a single specimen from the produce or practice in the domains of the Czar of Muscovy. Kamtschatka, which is treated of in this letter, until lately has been considered an immense inhospitable waste, where the bounties of nature and the expedients of art, are equally unknown. How far this opinion is correct or otherwise, will be seen by the following account, which was published by the command of the late illustrious Catherine.

I shall commence my description at the southern extremity, which the Russians call Lopatka, latitude 51°, longitude 156° 40' east from Greenwich, a low point of land, widening and rising gradually into mountains, barren and rocky; only producing, here and there, the creeping cedar and willow, to the extent of 40 miles. Birch trees then appear in the inconsiderable vallies, which are replete with lakes and rivulets rushing into the sea both east and west. A cluster of moun-

tains occupy the whole space, from the Lopatka to latitude  $53^{\circ} 5'$ , where, in the neighbourhood of the village Malka, they divide into two branches, one tending to north north-west, the other, which may be called the principal chain, leads north north-east. The place where the mountains separate is the highest land on the peninsula, and forms a barren stoney desert of 65 miles in length, in a direction north and south, and from 3 to 15 in width, producing, in detached spots, brush-wood, willows, and a very few scattered and stunted birch-trees. It is replete with springs and brooks, some of which uniting, and flowing south and south-west, form the Bistrea, while others, at only a few fathoms distance, take an opposite course, and are the sources of the river Kamtskatka. At the end of this desert, the mountains close within a mile or two, and a forest of birch trees follow to the village Apou-shinsk, where the river Kamtskatka is navigable for small boats to its discharge.

From this place the face of the country assumes the appearance of extreme fertility. The valley widens, and the space between the mountains east and west is at Virchni Kamtskatka 40 miles. The soil is deep and rich, composed of black earth, mixed with fine black ashes from the burning mountains, and fine iron sand, which adheres to the magnet, and forges well with bar iron, but, alone, is very brittle.

The productions of nature are a small kind of black cherry, (Tsheromka) in great abundance, the wood of which, being particularly hard, is used, by the Kamtskadals, for their guiding sticks to the sledges; the thickest trees, that I have seen, are nine or ten inches in circumference. Firs, common pine, and larch trees of extraordinary size, with birch, poplar, asp, and mountain-ash, clothe the mountains to their summit. The underwoods are currant, dog rose, hawthorn, alder, and bushes producing berries.

The climate is very different from that of the southern and northern parts of the peninsula, the valley being completely sheltered from the sea-breezes that chill the air in other parts, and prove a great check to vegetation, which commences here in the month of March. The scenery is beautiful beyond description, the river meandering through the midst of the valley, from 50 to 250 yards wide, and from 8 to 15 feet deep, and being full of trout and every species of salmon in the season. This valley is 180 miles in length, frequently opening prospects of the Tolbalschinsk, a lofty double-headed mountain, constantly emitting an immense column of black smoke; while the second volcano, Klutsheffkoi, towering to an incredible height, illuminates the clouds with its blaze, and affords a view awfully grand.

Twelve versts below Virchnoi Kamtskatkoi Ostrong, is the

village called Milkovoi, inhabited by farmers sent from Siberia, at government expence, and possessing particular emoluments, for the purpose of growing corn and pulse to supply the country. They live uncontrouled, however, and find it easier to accumulate wealth, by acting as retailers for the merchants of Kamshatka, and going themselves on the chace for fables, &c. than in pursuing the more toilsome labour of cultivating the earth, which they neglect: yet they keep gardens that produce very fine cabbages, potatoes, turnips, carrots, cucumbers, &c.; they also grow buck-wheat and rye for their own use, which yield abundantly; and I am inclined to think, that had they a proper inspector to superintend their business, they might, with ease, grow corn enough of every kind, not only to supply the peninsula, but all the neighbouring country, Ochotsh, &c. Hemp grows remarkably well, which, however, I think there is no need of cultivating, for the nettle seems equally to answer every purpose. The Kamshadals and Russians make sewing thread of it, and fabricate from it their fishing nets, which serve them, if used with caution and properly dried, four or five years. The process of preparing it is nearly the same as that for hemp, but I think less troublesome; the nettle grows to the height of six and seven feet; the fibres are much finer, and thread of equal thickness is stronger than that made of the imported hemp.

At Tolbalshinsk the mountains are broken and barren; they encroach upon the valley, and considerably lessen its width. Storms are frequent between this volcano and that of Klutsheskoi, but never reach the neighbourhood of Milkovoi, and the trees are considerably less in size, but the country continues fertile as far as 30 versts north of the village of Klutsheskoi, which is also a colony of Siberian peasants, for the same purpose as those at Milkovoi, and who act in the same manner. Their proceedings are, in some respects, justifiable; for the magistracy at Neirshni exact the same payment from them as from the residentiary merchants. The court of justice consists of a burgo-master, four members or rathmen, a secretary, writers, and watchmen, receiving a salary for the time they are in service: and frequently an expensive deputation is sent to Tigil, Bolshoiretsk, Virchni, and such places as are resorted to by these pedlars, so that it is a matter of doubt with me, whether the culture of the earth would render any harvest sufficient to answer the payment of their claims. In some years they amount to 18 or 20 rubles, and in others half as much more.

As you approach the north, the severity of the climate increases; the soil becomes sandy and stoney; and the vegetable productions are stunted and weak. The isthmus is situated in latitude  $59^{\circ} 20'$ , and the distance from sea to sea is here about

40 miles. The widest part is from Kronotskoi Nofs to the river Itsha, about 220 miles.

I have already mentioned the situation of the town Neirshnoi Kamtschatka, which contains 80 isbas or houses, with two churches, and its number of inhabitants, including children, 548 souls; latitude  $56^{\circ} 33'$ .

The western coast of Kamshatka is uniformly low and sandy, to the distance of about 25 to 30 miles inland, where the mountains commence. It produces only willow, alder, and mountain ash, with some scattered patches of stunted birch trees. The runs of water into the sea from the mountains, do not deserve the name of rivers, (except the Bolshoia Reka) though they are all well stocked with fish from the sea in season, as trout, and different species of salmon. They are generally at the distance of 15 to 20 miles from each other. The Itsha and Tigil are the most considerable, and neither of these have a course, with all the windings of more than 100 miles.

The sea is shallow to a considerable distance, and the commanders of the transport vessels, who never lose sight of the exposed coast if they can help it, judge of their distance from land, in foggy weather, by the soundings, allowing a fathom for a mile; nor is there, at the entrance into any of the rivers, more than six feet at low water, with a considerable surf breaking on the sandy beach.

The villages on this coast are Tigilsk, Itshinsk, and Bolshoietzk (situated on the Tigil, Itsha, and Bolshoia rivers). Of these, the former is the most considerable, containing 45 wooden houses and one church. The Russian charts place it in latitude  $57^{\circ} 55'$ . This, which they call a fortified town, is surrounded by wooden palisades, and was built in 1752. The number of inhabitants are 338, including women and children. Itshinsk also contains a church, and about 10 houses, with 50 inhabitants. Bolshoietzk contains 37 houses, and the total number of inhabitants are 235. Beside these, there are eight inconsiderable villages, containing each three or four houses, on the west coast.

I am, Sir, Your's, &c.

2d Nov. 1804.

G. PORSNAKOFF.

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*For the Agricultural Magazine.*

AN EASY AND EXPEDITIOUS METHOD OF DESTROYING  
BLACK HAIRY CATERPILLARS, WHEN TURNIPS ARE  
ATTACKED BY THEM.

**T**URNIPS are of such great consequence to the Farmer, that every method of destroying their various enemies, flies, slugs, caterpillars, &c. cannot be too much circulated through the kingdom,

In the neighbourhood of Leicester, the Black Hairy Caterpillars began a few days since to make their depredations on the turnips of Mr. Blower, a very ingenious and able cultivator. On the discovery, he instantly procured a number of ducks, and turned them into the field, and, in a few days, not a caterpillar was to be seen, the ducks devoured them with so much avidity, and his crop is now in a thriving state.

In another field the Caterpillars began to make their appearance also, but they were so small, that he thought it more proper to stay a few days before they turned the ducks upon them, that they might be more readily seen, and I would recommend that the ducks be kept up for a few hours without food, that they may be more eager for the attack.

I endeavoured to have seen Mr. Blower in the market, on Saturday, but could not, that I might have learned from him more particulars relating to the quantity of turnips, number of ducks employed, and the time they took in completing their work, but as the 18th of the month was yesterday, when you desire to receive communications, I would not omit it another day. A little experience will soon teach a person, that if the caterpillars be too numerous and large, he must increase the number of his ducks.

The information I received of this experiment, was from Mr. Harrison, an experienced Gardener, who asked me what method I would recommend, and immediately mentioned ducks to him, as I had known it succeed; he then informed me that he had recommended it to Mr. Blower.

As the method, I am certain, is not generally known, and this is the season for the appearance of the Caterpillars, I send you the information.

*Leicester, August 19th, 1804.*

R. WESTON.

## ON THE IMPROVEMENT IN SOWS.

*To the Editor of the Agricultural Magazine.*

SIR,

I CANNOT avoid communicating to you the following observations on a sow of the improved breed, which I think peculiarly deserving the attention of your readers, and I think them likely to be the more acceptable, because I give them on much better authority than my own.

By a mixture of the Chinese black swine with others of the larger British breeds, a kind has been produced which possesses many qualities superior to either of the original stocks. They are very prolific, are sooner made fat than the larger kind upon less provisions, and are cut up when killed, to more useful and convenient purposes.

Arthur Mowbray, Esq. of Sherburn, in the county of Durham, possessed a sow which had a litter of nineteen pigs to support at

the time, and this litter was the third within ten months; the whole amounted to fifty pigs.

The Chinese, or black breed, are now very common in England. They are smaller, have shorter legs, and their flesh is whiter and sweeter than the common kind.

A sort, similar to this, were those found in New Guinea, which proved so seasonable a relief to our circumnavigators, when that country was first visited by them. There are likewise great numbers of them in the Friendly and Society Isles, the Marquesas, and many others of the newly discovered islands in the South Seas. These are fed with plantains, bread-fruit, and yams, and are exceedingly fat. They are frequently seen by the natives in their canoes swimming from one island to another, and killed by them with their lances and arrows.

Another breed of swine has lately been introduced into this kingdom, which is expected to rival or excel all the others. The original stock was produced from a wild boar brought from America, and a sow of the improved Chinese breed. The sows are very prolific, and the colour of the pigs is in some cases most fancifully diversified; some are striped longitudinally with brown and black; others brown and blue, and others with black and white. The colour of the boar was a rusty brown.

I am, Sir, yours, &c.

November 2nd, 1804.

A. L. L.

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CORRESPONDENCE BETWEEN THOMAS ANDREW KNIGHT, ESQ. AND DR. LETTSOM, ON THE LATE MR. FORSYTH'S COMPOSITION FOR THE RESTORATION OF DECAYED TREES.

*To the Editor of the Agricultural Magazine.*

SIR,

IN your Critical Catalogue for September last, page 212, you have noticed a treatise on the culture and management of fruit trees, by the late ingenious William Forsyth. I have thought, perhaps erroneously, that it would be an acceptable addendum to that article, if I were to supply the correspondence between Thomas Andrew Knight, Esq. and Dr. Lettsom, on the late Mr. Forsyth's composition for the restoration of decayed trees. Under this impression, I have sent copies of the letters connected with this subject, and you will use your own discretion with respect to their publication, through the medium of your Magazine.

Kensington,  
November 2nd, 1804.

I am, Sir, yours, &c.

A. B. C.

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On the first of June last, T. A. Knight, Esq. favoured me with a letter (No. 1.), on a subject which it fully explains;

and

and to which I have annexed my answer (No. 2), and his reply (No. 3), with the certificate (No. 4), which gave rise to the correspondence.

Since this period, a printed letter, addressed to me by the same respectable gentleman, has been inserted in several public prints; the object of which is contained in the first letter I received (No. 1); and here given as a companion to No. 3.

But, however laudable the enquiry might have been, which he suggested, and to which his distinguished character might seem to claim an answer; yet as I had subscribed my name to facts, merely with a view to promote the adoption of them for the improvement of horticulture, without any idea of exciting controversy, I did not think that his letter required, at that time, any public reply; as those facts on which my conviction was founded were open to the investigation of every other person; added to which, I had been informed that a literary gentleman had proposed to accompany him to ascertain their validity, of which I still remain convinced, without meaning in the least to interfere with or controvert the opinions of others. I cannot, however, but wish, that a person of T. A. Knight's influence and justly high character, would take the trouble to examine the facts upon which so many other literary gentlemen have founded their conviction, by which I presume to think he would be induced to draw similar conclusions.

Aware as I am that the subject now assumes a new and additional interest by the death of my excellent friend; and that longer silence might be considered by some persons as a dereliction of the facts which that ingenious Horticulturist had established; and hence induce them no longer to pursue those means of preserving and improving their fruit-trees, which his long experience had suggested and ascertained; I have been induced to lay the correspondence before the public on this subject, which must appear highly important in a national point of view, when it is considered that nearly half of our vegetable diet depends upon horticulture; and whoever increases the product of the soil, is a benefactor to mankind. And in this rank stood high the unassuming and intelligent Forsyth; whose instructions, if generally adopted, would render gardening not only a pleasing, but likewise a profitable pursuit; and fortunate it is for the community, that he lived to publish the most rational and extensive system of cultivating fruit-trees hitherto known, and at an advanced age, witnessed the establishment of the Horticultural Society of London, a favourite object in his mind, and which, prior to its formation, he repeatedly introduced in conversation with

JOHN COAKLEY LETTSOM.

*Sambrook Court, September 10.*

*Ag. Mag. Vol. II.* U u

TO DR. LETTSOM.

SIR,

Elton, near Ludlow.

I take the liberty to trouble you with the following propositions, in consequence of having just seen an attestation signed by yourself and seven other professional gentlemen, that all the assertions published by Mr. Forsyth "contain nothing but the truth."

Mr. Forsyth asserts (page 440), that wounds in oak-trees can be cured by his compost, and such trees thereby "rendered as fit for the navy as though they had never been injured."

I offer you, or any of the gentlemen whose signatures follow yours, to deposit two hundred guineas, as a bet, that neither you, nor any of them can produce a single foot of timber restored after being once injured, to the state asserted by Mr. Forsyth.

Mr. Forsyth asserts (p. 440), that he has restored elm to the most luxuriant state of growth, of which "nothing remained but the bark." If this have been done, it will appear in a transverse section of the wood subsequently formed in the once hollow trunk.—I therefore offer you a second bet of one hundred guineas, that you cannot produce such a transverse section.

Mr. Forsyth asserts (page 466), that he has actually in his possession parts of the trunk of a tree in which the new wood has been made to incorporate with the old by his compost, &c.—I offer you a third bet of one hundred guineas, that you cannot produce a transverse section in which this incorporation has taken place, though Mr. Forsyth asserts that he keeps such for public inspection.

And I further offer you a bet of one hundred guineas, that you cannot produce any piece of oak or elm timber, in which any surface that has been *cut*, *broken*, or *decayed*, has formed an heart, or incorporation, to the width of a single inch, in the manner asserted by Mr. Forsyth; and I agree to sign a petition, jointly with you, to the President of the Royal Society (as the most proper person in this country, both from his office and knowledge of the subject), that he will appoint arbitrators between us. As the subject is of vast national importance, there is little doubt but that he will comply with our request.

It will be necessary for me to address the present propositions to you through the public papers, in vindication of my own character, which is evidently attacked in your letter, though my name is not mentioned. Being, however, perfectly satisfied that you, and the other gentlemen who signed the attestation, were actuated only by honourable motives, and that you conceived yourself to be supporting the cause of an honest man, I address myself first to you in a private letter; requesting that you will examine Mr. Forsyth and his supposed disco-

veries; and call upon him for such proofs as he can readily adduce, if his discoveries have really been made. Should you then find you have been imposed upon, I trust you will come forward to say you have been deceived, without waiting an attack from me through the public papers. For, though any letters I may be under the necessity of addressing to you, shall be written with all possible delicacy and respect, such contest, if you have the wrong side to defend, cannot but be unpleasant to you. I therefore shall wait till I receive your answer, which I request as soon as convenient, and before the 15th inst. I trust to your candour and character, that you will discountenance all quibble and evasion, should such be attempted on the part of Mr. Forsyth. I am, Sir, with respect, yours, &c.

THOS. AND. KNIGHT.

P. S. I will immediately fix a day for coming to town, as soon as I know my propositions are accepted; but, before you accept them, I request you to peruse No. 47 of Dr. Anderson's Recreations, and his Quibbles about the meaning of his, in Mr. Forsyth's assertions, in the appendix to his Patent Vinevery.

TO T. A. KNIGHT.

SIR,

London, June 7, 1804.

I have just received thy letter, without date, containing various propositions for a process of gaming, or challenges to bett or lay wagers, in order to determine certain doubts in Natural History, published by William Forsyth, Esq. and sanctioned by my signature, and that of several scientific gentlemen; and, at the same time, recommending that the President of the Royal Society should hold the stakes.

This proposed mode of ascertaining facts does not appear either delicate or reasonable. Many an ingenious and well-informed person may not be in a capacity to deposit large sums of money; nor is it philosophical to make such deposit the criterion of truth, which should be supported by experimental facts alone. A conviction from the facts produced by W. Forsyth, induced me to give my signature as a collateral mean of confirming them, and of promoting inquiries for their further illustration, without any view of entering into disputation. To avoid which, if doubt remains as to these assumed facts, it appears to me becoming the character of a scientific gentleman, to examine the proofs from which those facts were deduced, prior to any process of determining their validity by pecuniary deposits; and I believe that this medium of information is open to every person who chooses to avail himself of it; at least it is so intimated to

JOHN COAKLEY LETTSOM.

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TO DR. LETTSOM.

SIR,

Elton, June 19, 1804.

The motives which induce me to address a second letter (privately) to you, will, I trust, serve as an apology for the trouble it gives you. It is my wish to bring the point in dispute between us before the public, in the way least offensive to your feelings, and to those of the gentlemen whose signatures follow yours; and therefore I send you a copy of the letter which I have ordered to be inserted in the public papers next Monday; but, if you wish it not to appear, and are desirous to propose some other method by which the asserted discoveries of Mr. Forsyth may be first examined again, I have given directions to the persons in whose hands my advertisement is placed (J. Woodward, Bull's-head-court, Newgate-street), to obey any orders that he may receive from you in the mean time, and till I come to town, where I propose being before the end of that week. If the proposed advertisement be suppressed, I shall expect to receive a line addressed to me at Whitehall.

Your letter acquaints me with a circumstance with which I was not previously acquainted, or I should not have proposed to you a deposition of money in support of our assertions; and I agree with you that such is not the most rational way of proceeding to remove philosophical doubts; but you must allow me to add, that your attestation has no relation to doubts of any kind: but positively asserts, from the result of your own actual knowledge and observation, that no grounds for doubt whatever exist, and that all Mr. F.'s extravagant assertions "contain nothing more than the truth." Surely this is not the best way of "promoting enquiries for further illustration."

I believe, Sir, that I did not propose that the President of the Royal Society should become a holder of stakes between us. I proposed that he should appoint persons to decide on "a question of vast national importance;" any property depending on that decision being placed in other hands, and respecting which neither he, nor the persons appointed as arbitrators by him, could have, of course, any concern whatever.

There is an angry tone of irritation pervades the whole of your letter, which I do not conceive any thing in mine justly to excite; and which, I trust, will not appear in any future private and public correspondence which may take place between us. The language of ridicule and invective will not answer any good purpose, and is easily assumed by either of us; and knowing that you, and the respectable characters whose signatures are joined with yours, have been most egregiously deceived, I know that such language would be used with most effect on my side of the question; but it is my sincere wish to treat them and you with civility and respect. Your obedient servant,

THOS. AND. KNIGHT.



## ON MERINO SHEEP.

*To the Editor of the Agricultural Magazine.*

SIR,

FOR the most part I sincerely subscribe to the exordium of your correspondent Pastorius, No. 63, p. 238; and in nothing more than to the well-merited eulogium of *Sir John Sinclair*. Britons, in succeeding generations, will not cease to venerate and be grateful to the memory of *him*, who, with singular energy, ability, and success, has devoted the best part of his life in promoting the dearest and most important interests of his country, and of human society.

For myself, I pretend not to be indifferent to the honour your correspondent confers, by placing me on a list which I consider to be most truly honourable; fearful as I feel myself that I am more indebted to his partiality than to any other circumstance. With respect to a bill for general inclosure, it would seem to be a measure so obvious, so extremely beneficial in its consequences, and withal so easily practicable without trenching on the privileges of any class of individuals, that I am willing to persuade myself the legislature will, at no distant period, be induced to pass such a bill; a measure so striking and so advantageous to the country in its present state of increasing population, requiring only to be contemplated in order to be adopted.

But as to commutation, or compensation for tithes, I incline to think the difficulties are of a nature somewhat more serious. It is certainly admitted, even by the best informed part of the clergy, that tithes operate as a very considerable bar to expensive and permanent improvement in agriculture: but still the clergy are in legal possession, and generally, I think it may be said, they exercise their right with a lenient hand.

It can scarcely be imagined, nor ought it to be desired, that the clergy would relinquish their right without a fair equivalent; in fairness, perhaps, they ought to receive somewhat more than are equivalent: Why ought they not, in some sort, to participate in the advantage which would be thus gained to the public in general? How this is to be effected to the mutual satisfaction of the parties I am at a loss to determine, unless it were that the clergy might be indemnified with the land proprietor, and be entitled to a certain proportion of the current rents; on the whole, a measure of this nature ought not to be altogether impracticable, provided it were treated by men of ability and liberal in mind, to be selected from the clergy on the one side, and from the laity on the other; for I cannot think it to be legal, equitable, or reasonable, that either party should dictate to the other.

I was not prepared to notice so pregnant an instance of the power of prejudice as that recorded by your correspondent—What, in Northumberland too! a county famed for the adoption of many valuable improvements in the business of agriculture! a county on the verge of North Britain! than which, I guess no part of the kingdom is making more rapid improvement. Your correspondent, sir, intimates to you, that prejudice, armed with the “*keen*” arrows of “*ridicule*,” hath actually so far prevailed against a gentleman of extensive practice in Northumberland, your truly respectable correspondent A. N. as to defeat his intention of investigating the merits of a measure of improvement, in its nature considerably interesting, which he was anxious to appreciate. After this, shall we be inclined to exult in the prospect that the forces of prejudice and mistaken interest, are well nigh about to subside. These checks to the spirit of enquiry need not be resorted to: I am one of those who conceive, that we are not too ardent in the pursuit of improvement, but, on the contrary, that we are apt too soon to rest under a fond persuasion of our having attained to the “*acme*,” the *ne plus ultra* of perfection, terminating our career with something of this sort of exclamation: Shakespeare is the most valuable bull in the United Kingdom, Pot8o’s the fleetest horse in all Christendom, and Don the finest woolled sheep in the whole world. That Shakespeare might be superior to another specified bull, Pot8o’s to a specified horse, and Don to a specified sheep, would be probable enough; but have we had opportunities of comparing Shakespeare with all the bulls in the kingdom, Pot8o’s with all the horses in Christendom, or Don with all the sheep in the world? The field is sufficiently spacious for the principle of improvement continually to proceed; nay, but even for the security of that we already possess, it behoves us never to lose sight of the principle. I shall not attribute to prejudice the predilection which Pastorius professes to have conceived for Leicester sheep; with him they seem to be framed by the perfect Hogarthian line of beauty. I would only just beg leave to remark, that an epicure, as he justly states, would give a decided preference to Merino sheep, and still more to a well fed turtle, as more nearly approximating to the true line of beauty, even than a Leicester sheep, to the general symmetry, combining a most small head, short neck and legs, and throwing off little or nothing of offal; and yet a Wiltshire shepherd, at first sight beholding this highly finished piece of perfection, would start as from a monster greatly resembling a certain reptile which he never could look on but with a disgust bordering upon horror.

In the communications of mine which you have already had the goodness to insert in your very interesting publication, the

following observations, if I mistake not, may be noticed, that Merino sheep in this country produce wool nothing inferior to that imported from Spain.

That they produce wool in much greater quantity than any species of British sheep, from equal quantities of pasture, or other feed.

That probably the temperature of Britain is more congenial to the race of Merino sheep than Spain itself, to which they are not supposed to be indigenous.

That far from the slightest appearance of detereoration, they manifest indisputable evidence of general progressive improvement, more especially in the quality and value of the fleece.

That they possess an aptitude to fatten at an early period, and that the quality of the mutton is excellent.

That they resist the effects of cold inclement weather equal at least to the hardiest of our native breed, being in fact much better defended with a closer, heavier, and more impervious covering.

That about one million individual sheep, or the one twentieth part of the estimated flocks of the island, would be sufficient fully to supply the greatest demand of our *fine cloth manufacturers*.

That probably a single cross would considerably increase the weight of the fleece in the offspring of our long-wooled sheep, still retaining the suitable staple as combing wool.

And I cannot but flatter myself, that ever essential point will stand uncontroverted—at least by facts.

I have a considerable degree of confidence in the candour and judgment of Pastorius; and yet, I conjecture, he will not easily detach himself from his favourite breed of sheep. I myself consider them to be more profitable than many of our native breeds—perhaps inferior to others. I am willing to attribute to the memory of the meritorious Bakewell, all the praise to which he is entitled. I think he did the best it was possible to do with the rough materials he had to work on. Had his active and discriminating genius been employed on the “*flat-sided, ill shaped*” Merinos, I doubt not he would have been equally successful; for I have granted, that we have ample scope for amendment; and this I consider to be an additional article in their favour of no slight importance.

But such as they are, if any circumstance should induce Pastorius to institute a trial, and to offer a liberal price, I would furnish him with a tup which should yield a fleece at next shear time; that is, on the corresponding day with the last shear, the fleece of which shall produce three yards of broad cloth, to be estimated by competent manufacturers at not less

than twenty shillings per yard, drapers price, or I will not insist on a single shilling for the tup.

In a former letter, I slightly adverted to the nature of my Lord Somerville's sheep-walk, and I persuade myself that no land agent of professional ability, would class it higher than medium pasture: now it results from the report of a most respectable committee of gentlemen expressly appointed, that his Lordship hath actually been enabled to stock, in the proportion of ten Merino sheep per acre of pasture, with turnips for the winter; and in this sense I have never mentioned more than ten head per acre, however Practicus and Pastorius might have misapprehended me to state from fourteen to twenty mouths per acre; nevertheless, I have land in my own occupation on which, by way of experiment, I would readily venture to pasture *throughout the year complete*, ten of my best Merino sheep to be preserved in good store condition, or as farmers term it, in a good folding state.

I still continue to differ with Pastorius, who is of opinion, that the extra size of an animal has but little influence in the extra consumption of food; and, on the contrary, am of opinion, that for the most part, the larger the animal, the greater the relative consumption of food; in other words, the less profitable the consumption.

Mr. Arthur Young, in his *Annals of Agriculture*, Vol. 31. p. 210. states that a Leicester lamb, at the age of about seven or eight months, had acquired ninety pound in weight, and that in the subsequent twenty months, during which time it had been well finished off with oil cake, &c. its whole weight amounted to no more than 149lb. but according to the hypothesis of your correspondent, it ought to have been *at least* 225lb. for eight months are to 90lb. as twenty months to 225lb. But Mr. Young, in the same experiment, further states, and I thank him for bearing me out so handsomely, that in conclusion, the Merino sheep had gained 73 per cent. on the original weight, and the Leicester 65 per cent. leaving a difference of 8 per cent. in favour of Merino.

In another part of the experiment it results, that the superiority of the South Down, by comparison with the Leicester, is very conspicuous; its ultimate weight having been 152lb. and that of the Leicester 149 only; whereas the original weight of the latter was stated to have been 90lb. and that of the South Down but 84lb.

Thus it seems evident *from this experiment*, that the converse of the opinion entertained by Pastorius, is found to be the fact; and that the profitable consumption of food is established to be in favour of the smaller animal, both in the different genus, and in the progressive advances in each of the same species.

I have often mentioned, however, and here I beg leave to repeat, that an implicit confidence ought not to be placed in a solitary experiment, 50 experiments of a similar nature would certainly lead to a much more satisfactory conclusion. I sincerely wish 50 such were accurately made and faithfully recorded: in the mean time, I rest satisfied on the candour of your correspondent, to allow, that even a single experiment actually conducted by a person of Mr. Young's well earned celebrity, would be of more sterling weight, and be considered as a more rational guide for practice, than 50 expressions of opinion unconnected with data, although those expressions might be uttered by 50 different persons.

If it might be granted me to express an opinion, abstracted from the consideration of Mr. Young's experiment, as well as some others which might be adduced in confirmation, I have long been of opinion, that in general, the more profitable consumption of food would be on the side of the smaller animal. And if I happen to be rather firm in this persuasion, yet not so riveted, as not to be extremely anxious, that the question, *which of the two*, were fairly and unequivocally decided? for I consider its clear decision to be of no small importance to the public, the more especially as I incline to think the opposite opinion too much predominates.

Pastorius, in some part of his letter, comparing Leicester with Merino mutton, seems to be of opinion that the Newcastle keelmen would consider the latter to be no better than carrion. I am not willing to detract from the merits of Leicester mutton, or from that refined discrimination of taste with which the keelmen are said to feast on it. Those who know me, know that my habits are far enough removed from the elegant refinements of the epicure. But I know many who, fond of good eating, give the most decided preference to Merino mutton. I will not say by comparison with Leicester mutton, but with the best estimated breeds in the country. I beg to quote the words of one who with the qualifications of a good eater, possesses a thousand others still more valuable. The words I have under his M. S. signature: after remarking on the superior profit of this breed, he says, "*and those who saw and ate any part of the carcases sold by the butcher Brooke, must acknowledge the quality of flesh and flavour to be far superior to any other sort.*"

My apology to Pastorius, for the cursory and desultory manner in which I have glanced on his enquires, must be, the more immediate pressure of other avocations; and this I dare flatter myself, he will be induced to receive in good part; in exchange, I shall be happy in future opportunities of answering

his expectations with more perfect and satisfactory information.

Bath,  
Nov. 13, 1804.

I remain, Sir, your obedient servant,  
NEHEMIAH BARTLEY.

*To the Editor of the Agricultural Magazine.*

SIR,

SINCE my last of the 13th instant, I am enabled to state some particulars respecting a piece of navy blue-broad cloth, from fifteen fleeces of wool, the growth of last year, and manufactured by a clothier of first rate reputation, carrying on the business at Tiverton, near Bath, the parish in which the sheep are depastured.

The wool was intended to have been assorted after the method pursued with wool imported from Spain, *i. e.* into the several divisions of R, F, and T—but neglected.

The following is the report of the manufacturer :

“ Being in London at the time Mr. Bartley sent the wool  
“ to be manufactured, my people used the wool as sent, with-  
“ out throwing out any of the coarse, leaving the F and T  
“ with the R, which was certainly against the piece of cloth  
“ made from it; but I must beg leave to say, that the piece,  
“ as finished, will convince any person, that it is equal to  
“ any cloth in England: and with care and attention in assort-  
“ ing the wool, it would feel *better* than any piece of cloth  
“ I ever saw made from the first Spanish.”

(Signed) EBENEZER BROWNE.

P. S. “ My man said, you wish to know what I could sell  
“ it for per yard. I could get twenty-two shillings per yard—  
“ cash at six months.”

I know not precisely Mr. Browne’s charge for the fabrication, but I take it to be about seven shillings per yard.

From the preceding data, then the amount would stand thus :

33 and 1-half yards at 22s.	- - - -	£. 36	17	0
Deduct charges at ditto at 7s.	- - - -	11	14	6

Balance	£. 25	2	6
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Or 33s. 6d. per fleece; much higher than any statement by my Lord Somerville.

Bath,  
Nov. 17, 1804.

I remain, Sir,  
Your obedient servant,  
NEHEMIAH BARTLEY.

X x 2

To the Editor of the Agricultural Magazine.

ON THE PRODUCE OF THE HARVEST, CONSUMPTION  
OF GRAIN, PRICES OF CATTLE, &c.

SIR,

IF we give credit to newspaper accounts, we have, within the last few months, reaped an amazingly productive crop of corn in every county of Great Britain. The prices of that necessary article, however, have advanced greatly, and we cannot, therefore, be surprised that some dissatisfaction has been expressed at the apparent discordance between the prices and produce, and that much anxiety should exist in the public mind, as to the real produce of the late harvest. Agricultural periodical works, will, of course, be read with a view of obtaining the most correct intelligence, and I ardently hope that your numbers for December and January will contain ample information from your Correspondents in various parts of the kingdom, on this interesting and important subject. In Northumberland, and those parts of the counties of Durham, Berwick and Roxburgh, which are contiguous to it, the wet weather which prevailed in the first and second weeks of August, was succeeded by drought, which, with the exception of a few moist days, continued till about the 20th ult.; the produce of the ground has, therefore, been secured in the most perfect condition.—During September the weather was uncommonly warm, and the grain was ripened and matured over a greater extent of country than we could have expected after so *very wet and late a spring*. The quality of our wheat is inferior to last years produce; but that of all other sorts of grain is good, and I heartily wish I could say the same with respect to the quantity; that, however, I am apprehensive, will fall very considerably below the produce of the crop of 1803. Probably beans and peas, which were a very luxuriant crop, will prove an exception. Upon our light lands and dry loams, we can equal last years *bulk*, but upon all other descriptions of land our crops were thin. From the trials which have been made in threshing wheat for feed\*, (which is generally the best,) there is reason to conclude, that about 84 sheaves will now scarcely yield, upon an average of the county, as much wheat as was last year obtained from about 66 sheaves. The crops in this quarter have not been materially injured by those diseases which are generally denominated blights and mildew, in many situations, however, numerous black and brown spots (called rusts) were discernable on the straw of the wheat, which are considered as the sure presage of an indifferent yielding crop. This, Mr. Editor, is very different from the intelligence you have received, from “ a devout and poetical far-

\* See page 225, No. 62.

mer\*" relative to the crops of this country; of the correctness of my own account, however, I do not, at present, entertain the smallest doubt. Upon some farms, under garden-like culture, on the deep and fertile banks of the Tweed, and indeed in many parts of the dry, well cultivated and fruitful Ward of Glendale, probably your correspondent would see such luxuriant crops as would "hold out to his *anticipating* mind, a sure presage of plenty and abundance." But if he had fully considered the *extreme* wetness of the months of March, April, and May, and that three fourths of the tillage lands of Northumberland, are incumbent on a wet substratum, (or at least that those soils in which clay greatly predominates, added to the wet grounds, will be equal to this proportion of the whole), perhaps he would have seen the impropriety of extending his elegant description over an extensive country. Here it may be proper to state, that I do not consider this gentleman as a Northumberland farmer, but one from another district, who in *travelling*, has made a few *cursor*y observations. Whether those correspondents who have given you such favourable accounts of the crops in several of the Southern counties, are of the same description, I cannot say; I cannot avoid remarking, however, that my intelligence through private channels, is different from that in your Magazine; and I hope you will pardon me if I add, that you should be well assured of the judgment and accuracy of observation, of those whose information you insert in your valuable publication. But I must beg to have it clearly understood, that I do not, at *present*, mean to accuse the last mentioned correspondents of incorrect intelligence, for it is possible that their information may prove perfectly right. Admitting, however, that it is so, we should *pause*, ere we admit the truth of what is introduced into your September number, relative to that pleasing and welcome officer, "*General Plenty*." The activity and subtle manœuvres of "*General Complaint*," and "*General Remonstrance*," will not be doubted; I am very apprehensive, however, that they will not be able to drive the odious "*General Scarcity*" from our territory, till they be strengthened by the never failing consequence of propitious seasons—an abundant crop. For it is pretty well ascertained that the produce of Great Britain, even in the most fruitful seasons, is not sufficient for her consumption, and as there seems no doubt, among men who are fully able to judge, that the deficiency, in some of our principal corn districts, is very great; it will not, I presume, be contended that, because the crops are pretty good, in several

\* From the commencement of the season for sowing wheat, till about the middle of October, the weather was very favourable for committing the seed to the ground in wet soils; the strong soils, however, were too dry and cloddy. The quantity sown is great, as the weather was favourable in the latter end of the month.

counties, grain will be plentiful throughout the country. The deficiency in this county, and in Durham and Berwickshire, I have already said, will be very considerable, and, if I am not misinformed, it will be much greater in most of Yorkshire and Lincolnshire. I have also heard that the crops, particularly those of wheat, are very unproductive in several other counties\*. Now, when we have so much reason to apprehend that the produce of our crops will, upon the average of the kingdom, fall considerably below that of last year, what is the most proper course for the Editors of Periodical Works to pursue? Should they contend that the crops are exuberant, or that the earth has yielded her precious gifts in abundance, but that by the artifices of farmers, corn dealers, and monopolizers, whose avarice is insatiable, the consumers are oppressed by enormous high prices; or should they fairly state that the last spring was one of the most unfavourable in the memory of the oldest inhabitants of Britain, that such a season is highly detrimental to cultivation and the growth of the crops on strong and wet lands, that about three fourths of the tillage lands in the kingdom are of this description, and that, therefore, this year's produce, will, probably, prove considerably less than that of an average crop?

To amuse the consumers of grain with hopes which, in all probability, will prove fruitless, would, I think be highly improper. Proofs of this may be adduced from the experience we have gained within the last six years; and I have so high an opinion of the loyalty, peaceable disposition, and resignation of my countrymen, that I am fully persuaded those disgraceful and dangerous riots which occurred a few years ago, would not have taken place, if the people had not been misled by artful misrepresentations.

Supposing, after all the unfavourable accounts which have been circulated by the growers of corn in certain districts, that the crops should prove, upon an average of the country, a productive one, the present evils to the consumers, will only be of short duration, for, as it is certain that prices are formed between the supply and demand, they will soon be enabled to purchase at a lower rate, a rate rendered still more moderate by the *economy* introduced in consequence of the present high prices.

Very important advantages arise to this country from the liberty of the press; we suffer, however, occasionally, from its licentiousness, and on no description of people does this fall more unmercifully, in times of scarcity, than on my brother farmers and the dealers in corn. In plentiful times, either

\* I am informed that in these counties some fields have been so much injured by blight, &c. as to be scarcely worth the expence of reaping.

these men are not noticed at all, or they are admitted, by the Editors of our Newspapers, to be the most useful members of the community. No sooner, however, does an unfavourable season, and its consequences—unproductive crops and high prices—reverse the scene, than they are deemed the pests of society. Can any thing be more unreasonable and unjust than this? If any of these *sapient* editors could discover the means of rendering the crops as prolific in wet and adverse, as in propitious seasons, they would discover what agriculturists, from the creation of the world till the present time, have searched for in vain; until such a discovery be made, however, it is incontrovertible that their severe reflections on the cultivators of the soil, are highly unjust and injurious. Those consumers of the produce of our lands who are, occasionally, candid enough to admit that the husbandman cannot controul the weather or make the crops of grain as productive in adverse as in favourable seasons, censure the growers, in the severest terms, because the advance of price is generally above the ratio of the deficiency of produce. A few years ago, when it was believed that the crop was one-fourth deficient, they contended that the increase of price should not exceed 25 per cent. above the rate of ordinary years, and that instead of being satisfied with this advance, “the cruel and avaricious farmers,” obtained prices far above that ratio, &c. their arguments were specious and misled a great majority of the inhabitants of this country, and if the present crop should prove deficient, similar arguments will undoubtedly be urged to shew the “unbounded avarice of farmers and corn-dealers,” and to expose those most useful members of society to the reprobation and violence of the populace; permit me, therefore, to investigate this subject with some degree of precision. From my own experience and the accounts of several accurate husbandmen, I am inclined to think that the annual consumption of farmers, for servants, seed corn, labouring animals, &c. &c. will, upon an average of the country, amount to nearly two-fifths of the produce of their lands\*. That consumption is, in almost all cases, as small as circumstances will permit, and *as it is the same in scarce as in plentiful years*, a crop *one-fourth* deficient, will enable farmers to sell but little more than *one-half* of the usual quantity of grain; it is clear, therefore, that they cannot afford it at an advance of 25 per cent.

Corn being an article of the first necessity, there will, when a scarcity exists, be a greater competition to possess it, than any other commodity, and this is the reason why it sometimes brings a price exceeding the ratio of the deficiency. It cannot,

\* On this subject I shall be glad to see the opinions of your accurate correspondents.

however, I think, be maintained, that in such cases, these high prices are detrimental to the interests of the country, for, as they cause the utmost frugality in the consumption, they have a tendency to prevent the scarcity from ending in famine. But supposing, for the sake of argument, that they do not promote the interests of the country, will those men, who a few years ago, *sagely* endeavoured to encrease the discontent of the people, contend that the farmer has no right to avail himself of every opportunity to obtain as high a price for his corn, &c. as the buyers will give, that his right to sell as high as he can is not equal to that of the owners of sugar, tea, treacle, or any other article, or that attempts to prevent his doing so have not increased the evils they were intended to remedy?

To shew the danger to which the country is exposed from the misrepresentations of the Editors of Newspapers, I beg leave to state a few circumstances which recently occurred, but which may have escaped the notice of some of your readers. After the heavy rains in August last had damaged the crops, and retarded the harvest, the rise in the corn markets was imputed, in some papers, to the passing of the present bill for regulating the importation and exportation of grain, though it was clear, that if that measure had any effect at all, it was that of inducing the holders of foreign corn to hurry it to market previous to the commencement of the new law, (the 15th of November.)

In June and July last, when the above bill was pending in Parliament, it was stated in another Newspaper, that it was *then* improper and dangerous, to revise our corn laws and make an experiment, *because, on all hands, the crop was allowed to be deficient.* After the bill passed, however, and an advance of price had taken place, *in consequence of wet weather,* we were informed, in the same paper, that the public were already suffering from the effects of the bill, which had raised corn to an enormous price *in the face of one of the greatest crops ever beheld in Britain.* Such contradictory statements leave little doubt of their authors being more desirous of exciting discontent than of diffusing truth; and, if the present crop should really prove deficient, (and the present state of the corn markets corroborates the idea that it is so,) we may expect to see torrents of the most unqualified invectives poured forth against the cultivators of the soil and the dealers in grain. Every cause but the real one, will be assigned for the high price of provisions. Forestalling, monopoly, war\*, &c. &c. will again be advanced, in all the hideous forms which fertile brains can give them, to account for the calamity.

\* I am of opinion that the war will enable us to bring more foreign corn into the country than we could otherwise obtain, and consequently, it will, in some degree, reduce the prices of provisions.

The authors and defenders of the present corn bill will not escape censure, though it is evident that at prices considerably lower than those now obtained, it would not prevent the importation of foreign grain. No men in the country are more unfit to form a just opinion of our crops than the Editors of Newspapers. They know not the good from the indifferent, and many of them could not even distinguish a crop of barley from one of wheat or rye. The correctness of their intelligence may be judged of, by their statements during the late severe scarcity, which they contended was *artificial*. But if the dearth was not *real*, how can they account for the consumption of the immense quantities of foreign grain imported into this country in 1799, 1800, 1801? Notwithstanding these men's ignorance (in rural affairs) however, they *confidently* publish opinions which have a most mischievous tendency, opinions which greatly encrease discontent, forward the views of our inveterate enemies, and which certainly do not reduce the price of provisions, but, on the contrary, inflame the minds of the multitude, and lead to the destruction of great quantities of human food. Government will, therefore, I hope, direct a watchful eye towards them.

In most parts of this district the crops of Potatoes are abundant, and as the turnips, on our strongest turnip soils, have greatly improved within the last six weeks, I may safely say, we have one of the greatest crops of that useful root we ever possessed. Notwithstanding this, however, and abundance of grass, our markets for cattle and sheep, have, this autumn, been lower than those of last year, by eight to ten per cent. This may, in some measure, be accounted for, by the deficiency of straw. Within the last two or three weeks, the prices of lean stock have advanced a little. In Morpeth market, prices of fat stock were, last week, as under:

Cattle, 6s. to 7s. 6d. per stone of 14 lb. sinking the offal.

Sheep, 6s. to 6s. 7d. per do. do. do.

\* Swine, 5s. to 5s. 3d. per do. do. do.

At Berwick, and in the northern parts of Northumberland, Old wheat is now readily sold at 11s. to 11s. 6d. per Win. bush.

New do. at 9s. to 10s. 3d. per do.

Do. barley † at 5s. to 5s. 3d. per do.

Rye, at 5s. to 5s. 6d. per do.

Poland, or potatoe oats, at 3s. 4d. to 3s. 6d. per do.

\* These animals having been reared in great numbers, pork will very likely continue a very plentiful article.

† This article is more scarce than any other kind of grain. Owing to the low prices of last season, not above one-half of the usual quantity of land was cultivated for it. The same, I have been informed, has been observed in almost every other district in the kingdom, which tends to show that Lord Stanhope's plan for encreasing tillage and the improvement of waste lands, by *reducing the prices of corn*, would expose us to the miseries of dearth, or, perhaps, famine.

Common oats,	at 3s. to 3s. 2d. per Win. bush.
Beans and peas,	at 5s. to 5s. 3d. per do.
Potatoes,	at 1s. to 1s. 8d. per do.

In Newcastle and the Southern parts of the county, prices of most sorts of grain are generally about sixpence per bushel higher than those above.

In most parts of the district, good turnips are worth from five to six pounds an acre. Some have been cut to carry off for cattle at from 6l. 6s. to 7l. per acre.

Perhaps this letter is already too long, I must beg, however, that you will permit me to make some remarks on what you have addressed to me on the subject of tythes, in the last page of your 61st Number. This, I hope, you will the more readily grant, when you consider that the greatest part of it is intended to put the public on their guard against misrepresentations relative to what I apprehend is an *impending* calamity, and that in times of scarcity, more than ordinary attention is directed to the removal of all obstructions to agricultural ameliorations.

In the above page you say, "our publication is not designed to promote reform either in Church or State. We call it a work devoted to farmers and rural affairs, and to these useful individuals, and their important occupations, we are determined, as much as possible to confine it." If you had not conceived that I had mistaken the design of your Magazine, you would not have addressed this *memento* to me; and some of your readers will, probably, conclude that I have transmitted you papers containing principles similar to those which have brought *odium* on most of our political reformers, and that you have refused to insert them in your *Agricultural Work* \*; for I think they will search in vain for such principles in any of those you have done me the honour to publish. I have, indeed, very warmly recommended such legislative regulations as would give to the clergy and lay impropiator, a certain proportion of the present and future rents of land, in lieu of the tenth of their produce; I cannot, however, see that these regulations would alter, or endanger, the Government either in Church or State, to which, *I solemnly declare*, I am not less attached than any man in the wide range of the British Empire. And, as the intention of your work is, professedly, to promote Agricultural Reform, or, in other words, a change from worse to *better*, I must still contend that the *design* of all my papers is perfectly consistent with its chief scope.

Perhaps the mode of supporting the clergy by tithes, was necessary in early times, that necessity, however, does not now exist, and as it is incontrovertible that they operate as a

\* On this point I hope you will do me justice.

great obstacle to improvement in that art upon which mankind depend for sustenance, it appears to me absurd in the extreme to oppose a commutation, especially when it is clear that such a measure would be highly advantageous not only to the public, but to the land and tithe owners.

Tithes are, unquestionably, included in "rural affairs," and as disquisitions respecting them, and the laws by which they are collected, are highly interesting to "Farmers," I must repeat that I consider your publication as peculiarly fit for the discussion of all matters relating not only to them, but to all other regulations which have the smallest tendency to prevent the utmost extension of our agriculture.

The laws for regulating the importation and exportation of corn, the propriety of a general inclosure bill, &c. &c. have been pretty freely investigated in the pages of your miscellany. These discussions are certainly as far removed from practical agriculture, as those of tithes; yet you have expressed no disapprobation; and this is the more agreeable to me, as I purpose to offer you some papers as the poor's laws, those for the government of servants in agriculture, the property act as it affects farmers, &c. &c.

I think you will not say, that in my letter to you, I have neglected the plough, the harrow, or the drill machine, or that I have been sparing of my pen, ink and paper, in communicating the remarks I have made in the field of industry; judging of the inclinations of others, however, by my own, I am of opinion that if you *confine* your correspondents to that field and these implements, your work will neither be so exhilarating nor useful, as if you allowed greater scope.

I am, Sir—Yours, &c.

AGRICOLA NORTHUMBRIENSIS.

*November 13th, 1804.*

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ON THE AGRICULTURE OF THE COUNTY OF  
RUTLAND.

*To the Editor of the Agricultural Magazine.*

SIR,

**M**Y last communication was on the Agriculture of the county of Nottingham. The present paper will be devoted to a province not very differently circumstanced, but although the smallest in England, by no means the last in relative importance. Rutlandshire is about fifteen miles in length, and eleven in breadth, and according to the table page, 117, of your 6th Number, contains 200 square miles, 128,000 acres, 16,856 inhabitants, or 82 to each square mile. Being almost exclusively applied to agriculture, its population is in course

much less extensive than in any of our manufacturing counties; however, the inhabitants are fewer in number, in proportion to the extent, in Cumberland, Lincolnshire, and Warwickshire. The county partakes of the general character of the midland districts of England, which rise in gentle fertile hills, without any boldness of character. The S. S. E. parts have a shallow staple upon limestone rock. There is some cold woodland clay, and a large proportion of strong red land loam. The red land, in general, is rich, and inclined to sand. The under stratum of the county is a blue clay. Notwithstanding Rutland is the smallest county in its dimensions, the farms are, perhaps, larger than in most others of the kingdom: 600 acres is an ordinary extent. Three fifths, or nearly so, of this county, is in permanent grass, and the remaining two-fifths occasionally converted into arable and pasture land. Half of this extent may be considered good feeding land, but the rest must be assigned an inferior rank. The practice is, to lay the land in very high ridges, and from a little mismanagement in the direction of the ploughing, it is not an uncommon case, that the furrows are in a very wet state, and the top dry and burnt. This error has continued a very long period, until it has grown into a custom difficult to subdue. Two disadvantages I may notice in this place, both of which may be attributed to neglect. A great part of the county is over-run with ant-hills, which indicates a very slovenly state of agriculture. The want of ponds and water, although indolence has considered it a detriment from a natural cause, is, in fact, to be attributed to a deficiency in skill and industry, for nothing can be easier, in almost every situation, by a little artificial contrivance, to obtain this important auxiliary of husbandry. They are attentive enough, however, in preparing a compost from the ant-hills, but that is a poor return for the serious injury occasioned by suffering these pernicious intruders to generate on the soil. The practice of draining the ploughed land does not generally prevail; they, however, admit the share to go a considerable depth, which is the best substitute for draining, if it be done with care and regularity. It is very usual, in this county, to crop two or three times with white corn, and then to admit the land to return to pasture.

On the subject of pasture, the following questions naturally suggest themselves. What grasses are cultivated? What species of stock is kept? Whether the breed of the province can be improved? Or whether experiments ought to be made on a new race?—The answer to these enquiries will be given in the following observations. On this matter, in Rutland and all the neighbouring counties, we find, and we acknowledge with pleasure and gratitude, the benefit which has been derived from the enlightened and enterprising spirit of the late Mr.

Bakewell, who has introduced a system of improvement, which, I trust, will never be forgotten, and will redound extensively to private and public emolument. Twelve or fourteen years ago, a great number of sheep were kept in these districts of the polled long woolled kind, they were permitted to graze on the open ground, and little or no pains were taken with the breed. It seemed very indifferent to the proprietors, what race they promoted on their ground, on the Leicestershire side, they took, indiscriminately, the produce of that county, and to the east, the species propagated in Lincolnshire. In consequence of this disregard of the pedigree of that valuable animal, rams were disposed of at the low rate of from two to five guineas, and these were distributed in proper numbers through the flocks, without any of those considerations for the benefit of the progeny, which has been recently so much attended to throughout all the counties of the kingdom. Lately, however, the contracted mercenary spirit which led to this practice, has been countervailed, and fifty or an hundred guineas have been given for the hire of a ram, and, at the conclusion of the season, the liberal farmer has found himself abundantly repaid, in the improved quality of his flocks.

But few cattle are reared in this county, considering the advantages it offers to the grazing farmer: however, some of Bakewell's long horned, and of the Devon breed have been introduced, and we have no doubt the husbandman is now sufficiently persuaded of the policy of the exchange. Irish and small Scotch cattle are also in request; and they are at this day preferred to the Welch, the Shropshire, and the large Scotch breeds. The Irish have been much ameliorated by the bulls sent to that Island in such numbers and of such valuable stamina, by the farmer I have before named. After one summer's grass, they are sent to London to be disposed of at Smithfield-market. Some tolerably good black horses are bred in this county.

I shall next consider to what extent they avail themselves of the assistance of flooding for the improvement of the pastures. Irrigation has been so correctly understood, and so much resorted to in various counties, that it is with reluctance I see it neglected here. A very small proportion of land is artificially watered in Rutlandshire, and yet they have had frequent opportunities of observing the advantageous effects of flooding, in many extensive districts adjacent to the rivers Welland, Gant, and Calmose. Perhaps a prejudice may have arisen against watering, from the numerous swamps in the low grounds from the springs with which the hills abound, but, by proper attention, and with a very inconsiderable expence, these springs might be converted to very useful purposes. Drains, in proper directions from the hills, might be cut according to the necessity of the situation, to the depth of four or six feet; the

marshy ground would then be rendered firm and productive, and, by proper channels of communication with these drains, the practice of irrigation could be adopted over a prodigious surface, and not only the bad land might thus be converted into good, but the valuable ground might be rendered vastly more exuberant.

I have nothing deserving attention to remark, on any peculiarity or singular excellence in the species of grain cultivated in this part of England. I shall, therefore, proceed to enquire a little into the rotation of crops, and the practice with respect to green produce, turnips, clover, &c. and to what extent these may be found to answer the purpose of the husbandman.

On the open arable land, they have usually pursued the old course of two crops, and then a fallow, but on these situations they have lately introduced some turnips, which custom has been found to be followed by great advantage.

In some ground of this description, they have the subsequent rotation.

1. Fallow.
2. Barley with Broad Clover.
3. Clover Mown.
4. Fallow or Clover, fed off by sheep.

In very few places the practice of hoeing prevails, with any crop excepting turnips. It is to be lamented, that drilling is little known, excepting among experimental farmers, who pursue the business of the field, rather as a mean of public improvement, than with any immediate view to private emolument. If the new system of husbandry were more generally known, hoeing, which is absolutely necessary to existence, would be better understood, and the prodigious advantages, which are derived from this practice, would be universally acknowledged. In the inclosed arable the course is,

1. Turnips.
2. Barley and Clover.
3. Clover Mown.
4. Wheat on the Clover ley.

On the limestone soil, the rotation is, two crops and a fallow. The wheat of this county is in considerable repute. The cultivation of potatoes has been largely extended. It will be seen by what I have observed, that summer fallows are very general; I wish the farmers of that county to be aware of the disadvantages they suffer, from not promoting winter fallows. It is an extraordinary prejudice, which I have been often under the necessity of noticing, that the land is kept in a drier state, and more adapted to the spring seed, if it do not undergo the autumnal ploughing. Those husbandmen who have had an opportunity of observing the superior tilth in the

spring, where winter fallow prevails, will admit, that the autumnal ploughing is one of the most valuable expedients in agriculture.

But lest I should extend this article to too great a length, I shall, in my subsequent remarks, confine myself to the mere representation of the state of agriculture in the county, or, at least, make very few comments upon it.

I will next enquire, what is the rate of the wages and the price of labour, by the day or by the piece?

The wages are higher in the east than in the western part of the county. Some farmers engage their men from the beginning of hay time to the end of the straw harvest. Women are rarely employed in the business of the field, excepting in the season of harvest, when they have 8d. to 10d. per day. The wages of men in harvest are from 10 to 12s. per week with beer. If boarded in hay time, from 6s. 6d. to 8s. 6d. From the end of harvest to the end of October 8s. to 10s. and from that time to May 7s. to 8s. per week. From the latter month to hay harvest 1s. additional per week. 8l. to 10l. per annum, with board, to a competent ploughman. For piece work I may state, mowing grass at 3s. per acre, clover 2s. barley 2s. oats 2s. 6d. pease 2s. reaping wheat 6s. 6d. hoeing turnips 5s. per acre; threshing wheat 2s. per quarter; barley 1s. 6d. oats 1s. beans 1s. 3d. pease 1s. 3d.

I will now observe on the state of the woods of the county.

Oak is not much raised in this part of the kingdom, and a very small proportion, indeed, is suited to the use of the royal navy. The best part is employed for the purposes of navigation, and for buildings of various descriptions, and a large demand has of late been occasioned by the extensive canal works: the worst is, in course, used for gates, posts, hurdles, and a great variety of inferior purposes. It has been recommended, that oaks might be beneficially cultivated in the corners of many of the irregular fields of this county. With regard to the price which the wood obtains, it has undergone such rapid changes, that it is not at all safe, from year to year, to fix any determined estimate of its value.

The price of provisions is deemed reasonable in this county. Corn is generally cheaper than in the adjacent districts, but animal food, I find, bears the ordinary value with the neighbourhood, and is probably from one penny to twopence per pound cheaper than in the London markets.

The condition of the roads is a subject of particular importance both for private and public accommodation. The parochial roads are not well managed; they are, in general, raised too high, before the superficial materials are laid upon it, and the duty of the parishes, in this particular, is much neglected. There is a want of liberality in regard to the supply of mate-

rials for the roads among the different parochial establishments, with respect to each other, and the public surveyors never resort to procure materials from the neighbouring districts, if the smallest objection is suggested by any of the great land proprietors. While these obstructions are on every side presented, the traveller is not astonished at finding the roads much out of repair.

On the state of the farm-houses, the offices and tenements with which they are provided, I have little to offer. The dwellings of the farmers are inconveniently situated, being most of them in the adjacent towns and villages, so that the husbandman, instead of being in the centre of the little world he governs, is removed from the immediate scene of his employment, and is often induced to spend those hours in the club-room, which would be devoted much more prudently to the adjustment of his accounts, and to an attendance on his domestic duties.

Farms are usually let from year to year, and the covenants, where leases are granted, have received very little alteration for the last century. Among the few new ones we find, first, that the farmer is to take only one white crop before a fallow: secondly, that the tenant, not living in the farm-house, is to pay 10*l.* additional rent: thirdly, if the tenant do not keep his fences in repair, after three months notice, the landlord may enter and have remedy against him for the expence of repairing: fourthly, the tenant is not to mow the same land, two successive years.

No manufacture is carried on in any part of the county.

There are a few friendly societies established to supply employment, to which the industry of the young may be directed, and to make pecuniary allowances under the attack of disease, and under the infirmity of old age.

By the facts I have supplied, and by the few observations I have occasionally made, it will be seen, that there is abundant room for improvement in the agriculture of this county. It will appear surprising to some of your readers, that this little province, capable of being converted into the garden of England, and bordering on extensive districts, where agriculture is carried to a high degree of excellence, has been so grievously neglected. It is, however, but justice to say, that a spirit has been raised among the occupiers of the land, whether from shame, from interest, or from both, I will not determine, that is likely to rescue it from the disgrace to which it has been exposed, and that, I am confident, will be not less beneficial to the individual, than to the public.

I am, Sir, your's, &c.

Nov. 10, 1804.

CHOROGRAPHUS.

## BOTANICAL DISQUISITIONS.

**B**OTANY, of all scientific pursuits to my habits, is the most interesting. It unbends the mind, and relieves it under oppression from the clamour and business of the world, by supplying it with the most pleasing and cheerful ideas. The vegetable productions of nature which are distributed in her exuberant garden, invite our affections by the delicacy of their form, by the variety of their colours, by the felicity of their organization, and by the leading and prominent features by which they are distinguished. The more our curiosity is excited, the more it is gratified, and the greater our diligence in the search, the more abundant the reward in the acquisition. The frigidty of taste is soon converted into the ardour of passion, and the strong emotions which are thus generated, are attended with no danger in their indulgence. The field of nature, like the field of battle, possesses its share of glory; but it is a glory which is derived from the almighty hand of the divinity, and not which depends on the vices, the prejudices, and the infirmities of mankind.

It has been enquired, with some solicitude, by the lovers of this science, whether it may be fairly classed amongst those pursuits which are most beneficial to our species? some persons have been disposed to smile at the enthusiasm of the illustrious Tournefort when he searched for the rare productions of vegetation, sheltering himself in the caves of the Alps and the Pyrenees, from the furious cataracts which foamed around him. For myself, I had rather explore the Appenines with de Tigny or Reaumur, than ascend them in hostile array with Hannibal or Napoleone.

Those who doubt the utility of botany, must be unacquainted with its important uses, in supplying food to man, and healing him under the multiplicity of diseases to which his feeble frame is exposed. But many who are willing to acknowledge the advantages derived from it in this particular, deem the system of classification resorted to by modern naturalists to be puerile and frivolous. In their ideas it is absurd to detail the peculiarities regarding plants in a book, when they may take the original in all its native perfection from the hand of nature every hour: to dispose these productions into their orders, genera, and species, they say, is to create a new language crowded with a cumbersome parade of learning, without suggesting one new idea to the enquiring student. We find ourselves daily indebted to the exertions of the profound observers of nature for the removal of this error: a more accurate examination has convinced us, that the number of plants is almost infinite, that it is necessary therefore to form them into fo-

cieties, families, and individuals, in order to understand the principles of government adopted in this innocent, yet vast and magnificent republic. But independently of the facility thus afforded, this synthetic method has led to the discovery of some very beneficial results, which by no other means could have been ascertained. It has been even found, that flowers, analagous in their external features, are often similar in their uses, whether applied to domestic or pharmaceutic purposes. Linnæus entertained this opinion, but it must be acknowledged, when that extraordinary man laid the foundations of the science, it could not be sufficiently advanced to enable him to meet all the objections, and to establish his opinions on evidence incontestible. Since his time, however, Decandolle, has pursued this enquiry; true it is, that he has not been able to follow it through all its extent: yet he has traced with accuracy certain fixed principles applicable to the subject, and has carefully distinguished whatever is either doubtful or irrelevant.

Botanists have adopted two methods to remove the difficulties which must arise, in separating the individuals amid the vast chaos of the vegetable world, and the systems resorted to for this purpose, have received the name of classification. For this design they have either considered a single part of the flower in imitation of the two celebrated botanists we have named, Linnæus and Tournefort, or they have comprised various parts, or the general physiognomy which is adopted by Adanson and Jussien, and is practically employed in the botanic gardens at Paris. In the latter scheme, it is not sufficient to ascertain the features of the flower, nor even the proportions of the fruit, and the positions of the leaves, every circumstance and accident is taken into view, and the most prominent distinctions are recorded. Hence the fruit is more important on this scheme than the corolla, and the corolla than the foliage.

Conformity in the exterior character, indicates a relation in the interior organization, and this implies an analogy in its qualities; so that the properties of one plant being known, we may presume that those which belong to the same order, and also to the same genus, have similar properties.

If this rule had no exceptions, it would be sufficient, if we knew the virtues of one plant, to be acquainted with what related to the whole family. Unfortunately that is not the case, and although the knowledge of the properties of one species of plant may afford us some insight, we must, notwithstanding, have recourse to experience to give us the certain result. The batata, which is nutritive, and the jalap, which is a strong cathartic, belong to the same genus. The potatoe and the melon are of the same genus, as are the daffodil, and the thorn apple.

The objects of M. Decandolle's researches have been, 1st,

to examine the different families of plants, to distinguish those whose properties are the same in every species, and others whose qualities are uncertain or contrary; 2d, to find the cause of the exceptions in the law of analogy, and the signs by which it is indicated.

In comparing the natural families with the properties of the plants which compose them, we find that, in 108 species established by botanists, there are 23 whose qualities are wholly unknown, 15 where the law of analogy is probable, although it is not sufficiently established by experience: 19 where this law is restricted to certain genera: 21 where it exists with very few exceptions: 23 where the analogy is completely preserved, and only 7 wherein it is violated, or in other terms, there are only 7 in 108 plants which contradict the law of analogy.

It is certainly a great point gained to have distinguished in which cases it is right to judge by analogy, and where it must not be trusted; but it was not less important to seek the cause of the difference which often exists between plants of the same genus; to examine if a plant do not possess more or less the same virtues, and if this property is not indicated by signs easily determined? for this purpose it is necessary to compare vegetables by their botanical, chemical, and anatomical relations. M. Decandolle has treated this subject with much judgment.

Among other observations which he makes, I shall give the following, which appear to me the most important.

1st, When we examine with relation to their properties, plants which have a resemblance in their external form, we must not neglect to observe their internal analogy. In a lemon, the rind, the pulp, and the seeds are all totally different in their taste, smell and properties; this is the case in a number of plants, in the fruit, the leaves, and the root. Of two plants of the same genus, one is nutritive, the other is poisonous; the analogy may still exist, if in one the properties named are in the root, where the juice is hidden, while in the other, it is in the fruit and is obvious.

2d. Plants of the same family have ordinarily the same qualities, but these are more or less numerous, and vary in different proportions; some abound more in these qualities than others of the same kind. The like species, wild or cultivated, coming from different soils and climates, vary in their properties, because the culture and the climate either forward or repress the development of their qualities.

3d. In some families, plants seem to form a continued series, in others, they differ in many respects. It is a general position, that the more or less resemblance there is in their properties, the more or less are they of the same species. Thus the

families of the graniculus and the lip-plants have less similarity than the personata and the honeysuckles.

4th. Although plants are disposed by botanists in an order very nearly resembling that adopted by nature, yet it is possible that certain species have not been sufficiently examined, and that in forming the orders and the genera, enough notice has not been taken of certain characters, and that several species would have been differently placed. The progress that the followers of botany are daily making towards a methodical plan, favours greatly the pharmaceutic art.

By paying attention to these circumstances, and to the precautions which ought at all times to accompany our decisions, we shall successfully arrive at some general results conducive to practical utility.

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LIST OF PATENTS FOR INVENTIONS.

1804. **B**ARKER CHIFNEY, of London, Gentleman  
Sept. 14, for a composition to be used in washing, in order to render muslins and linens beautifully white, and for other purposes.

— 14, John Bywater, of the town and county of the town of Nottingham; for an improved method of clothing and un-clothing the sails of windmills while in motion, provided they are made after the Dutch manner, or as the generality of windmill-sails are constructed; by which the mill may be clothed either in whole or in part in an easy and expeditious manner, by a few revolutions of the sails, whether they are going fast or slow, leaving the surface smooth, even, and regular in breadth, from top to bottom. And in like manner the cloth, or any part thereof, may be rolled or folded up to the whip at pleasure by machinery simple and durable, that may be fixed up in a few days, at a comparatively easy expense, requiring very little alteration of any part of the mill, and is equally applicable to any old sails on the common construction, however warped or bosomed, without the necessity of having new cloths.

— 14, John Gregory Hancock, of Birmingham, in the county of Warwick, Die-engraver; for a method of forcing or working the bolts of presses or of engines used for the purpose of cutting, pressing, and squeezing of metals, horn, tortoise-shell, leather, paper, and other substances.

— 21, Joseph Huddart, of Highbury-Terrace, in the parish of Milington, in the county of Middlesex, Esquire; for a mode or art of manufacturing and spinning yarn, different from any such now in use.

The following STATEMENT is an accurate EXTRAET of the PRICE of the QUARTERN LOAF, WHEATEN BREAD, at the Commencement and Conclusion of the several Mayoralties, herein stated, from the Year 1735 to Nov. 9th, 1803, as entered at the Town Clerk's Office, Guildhall.—The Price at the Commencement of each Mayoralty shews the Price at the Conclusion of the preceding Mayoralty.

Dates. Nov. 9.	Mayoralty.	Price of Q. Loaf.	Dates. Nov. 9.	Mayoralty.	Price of Q. Loaf.
1735	Williams - - -	4 $\frac{1}{2}$	1770	Crosby - - -	6 $\frac{1}{2}$
1736	Thompson - - -	5 $\frac{1}{4}$	1771	Nash - - -	7 $\frac{3}{4}$
1737	Barnard - - -	5 $\frac{1}{2}$	1772	Townsend - - -	8
1738	Perry - - -	5 $\frac{1}{2}$	1773	Bull - - -	7 $\frac{1}{2}$
1739	Salter - - -	6	1774	Wilkes - - -	8
1740	Parsons* - - -	7 $\frac{1}{4}$	1775	Sawbridge - - -	6 $\frac{1}{2}$
1741	Godschall* - - -	5 $\frac{1}{2}$	1776	Hallifax - - -	6 $\frac{1}{2}$
1742	Willmott - - -	4 $\frac{3}{4}$	1777	Esdaille - - -	7 $\frac{1}{4}$
1743	Westley† - - -	4 $\frac{1}{4}$	1778	Plumbe - - -	6 $\frac{1}{2}$
1744	Marshall - - -	4 $\frac{1}{4}$	1779	Kennett - - -	5 $\frac{3}{4}$
1745	Hoare - - -	4 $\frac{3}{4}$	1780	Lewes - - -	7 $\frac{1}{4}$
1746	Benn - - -	5 $\frac{1}{2}$	1781	Plomer - - -	7
1747	Ladbroke - - -	5	1782	Newnham - - -	8 $\frac{3}{4}$
1748	Calvert - - -	6	1783	Peckham - - -	7 $\frac{1}{4}$
1749	Pennant* - - -	5 $\frac{1}{4}$	1784	Clarke - - -	7 $\frac{1}{2}$
1750	Cockayne - - -	5 $\frac{1}{4}$	1785	Wright - - -	6 $\frac{3}{4}$
1751	Winterbottom* - - -	6	1786	Sainsbury - - -	6
1752	Gascoyne - - -	5 $\frac{1}{2}$	1787	Burnell - - -	6 $\frac{1}{2}$
1753	Ironside* - - -	6	1788	Gill - - -	6 $\frac{1}{4}$
1754	Janffen - - -	5	1789	Pickett - - -	7 $\frac{1}{4}$
1755	Bethell - - -	5	1790	Boydell - - -	7 $\frac{1}{2}$
1756	Dickenfont† - - -	7 $\frac{1}{2}$	1791	Hopkins - - -	6 $\frac{1}{2}$
1757	Afgill - - -	7 $\frac{1}{4}$	1792	Sanderfon - - -	7 $\frac{1}{4}$
1758	Glynn - - -	6	1793	Le Mefurier - - -	7 $\frac{1}{2}$
1759	Chitty - - -	5	1794	Skinner - - -	7 $\frac{1}{2}$
1760	Blackiston - - -	5 $\frac{1}{2}$	1795	Curtis† - - -	12 $\frac{3}{4}$
1761	Fludyer - - -	4 $\frac{1}{2}$	1796	Watson - - -	8 $\frac{1}{2}$
1762	Beckford - - -	5 $\frac{1}{2}$	1797	Anderson - - -	9 $\frac{1}{2}$
1763	Bridgen - - -	6	1798	Glyn - - -	8
1764	Stephenson - - -	6 $\frac{1}{2}$	1799	Combe - - -	12
1765	Nelson - - -	7	1800	Staines† - - -	17 $\frac{1}{2}$
1766	Kite - - -	8	1801	Eamer - - -	10 $\frac{1}{2}$
1767	Harley - - -	8 $\frac{1}{4}$	1802	Price - - -	10
1768	Turner - - -	6 $\frac{1}{2}$	1803	Perring - - -	10
1769	Beckford*- - -	6			

\* Died in their Mayoralties.

Parsons, succeeded by Lambert, - 1740 | Winterbottom, - - - Aflop, - - - 1751  
 Godschall, - - - Heathcote, 1741 | Ironside, - - - Rawlinfon, 1753  
 Pennant - - - Beachford, 1749 | Beckford, - - - Trecothick 1769

† Westley, 1743, Bread two weeks at 4d. Quatern Loaf in this Mayoralty. Dickenfon, 1756, Bread four weeks at 9 $\frac{1}{4}$ d. Quatern Loaf in this Mayoralty. Curtis, 1795, five weeks at 1s. 3d. Quatern Loaf in this Mayoralty, the Penny Loaf weighing 4 oz. 10dr. and Staines, 1800, four weeks at 1s. 10 $\frac{1}{2}$ d.

A Peck Loaf should weigh 17 lb. 6 oz. 2 dr.—A Half Peck, 8 lb. 11 oz. 1 dr.—A Quatern, 4 lb. 5 oz. 8 dr.

## CRITICAL CATALOGUE.

I. *Transactions of the Linnæan Society. 7th Vol. 4to.*

WE are happy to find that the labours of this learned society still continue to be applied to afford new and important materials in the department of Natural History. We have sincerely joined in the regret expressed by one of our correspondents, that this essential branch of physical knowledge has been so much neglected in this country, and we shall be glad to discern, by the exertions of modern naturalists, that it is at last fitly appreciated. The work which we now submit to the notice of our readers, is embellished with plates, some of them coloured, illustrating the different articles discussed. These are introduced by the charter of the corporation, for the establishment of which the royal patent was granted on the 26th of March, 1802. A considerable portion of this volume is devoted to an historical account of Theatological Writers, and whatever may be the accuracy of this detail, we certainly consider it the least interesting part of the work. We have subjoined a few extracts, which, we conceive, will be greatly acceptable to the curious reader.

*A description of the Bos Frontalis, a new species from India. By Aylmer Bourke Lambert, F. R. S. V. P. L. S.*

*Read March 2d and May 4th, 1802.*

BOS FRONTALIS.—Bos nigro—cærulescens, fasciâ frontali griseâ, cornibus crassis, remotis brevibus, caudâ subnudâ gracili apice pilosâ.

TAB. IV.—Obs vellus molle. Juba nulla. Labium inferius, apice album pilis hispidis fetosum. Fascia frontis plumbea bases cornuum includens. Cornua pallida.

I received from Sir Joseph Banks the first information of this species, which lately arrived from India, having been sent by the Marquis of Wellesley to David Scott, Esq. and is now in the possession of Mr. Brookes, in the New Road, where I saw it. It is probably a native of the mountainous parts of that country, and appears perfectly new. In that excellent work of General Zoology, lately published by Dr. Shaw, which contains more species and better arranged than any work extant, it is not mentioned. The animal appears to be between two and three years old, very tame and inoffensive. A cow of the same species was coming over with it but died in the passage. This is all we can learn, at present, relating to this animal.

Soon after the drawing was taken the animal died, to all appearance owing to the change of climate: a dissection of it was made by Mr. Brookes, Surgeon, in Blenheim-street, who has been so kind as to favour me with the following measurements.

From the top of the nose to the end of the tail 9 feet 2 inches.

From the tip of the hoof of the fore foot to the top of the rising of the back 4 feet 1 ½ inch.

The girth of the largest part of the abdomen 5 feet 7 inches.

From the tip of the hoof of the hind leg to the highest part of the rump  $4\frac{1}{2}$  feet.

From the top of the forehead to the end of the nose 1 foot 9 inches.

Girth of the head over the angle of the jaws 2 feet  $11\frac{1}{2}$  inches.

From the tip of one horn to the other 1 foot  $8\frac{1}{2}$  inches.

The length of the horn externally  $8\frac{1}{4}$  inches.

The girth of the horn at its largest part 1 foot 1 inch.

In a letter with which I have been favoured from George Harris, Esq. respecting this animal, he writes as follows:

“DEAR SIR,

“I have before me your note with the drawing, which undoubtedly appears to me to be the figure of the animal I mentioned to have in my possession. Some parts of the drawing seem to be rather too much enlarged, as the base of the horns and the rising between the fore shoulders.

“The animal I described to you and which I have kept and reared these last seven years, and know by the name of the *Gyall*, is a native of the hills to the North East of the company's province of Chittagong, in Bengal, inhabiting that range of hills which separate it from the country of Arracan.

“The male *Gyall* is like our Bull in shape and appearance, but I conceive not quite so tall, is of a blackish brown colour. The horns short, but thick and strong towards the base, round which, and across the frons, the hair is bushy and of a dirty white colour. The chest and forehead are broad and thick. He is naturally very bold, and will defend himself against any of the beasts of prey.

“The female differs a little in appearance. Her horns are not quite so large and her make is somewhat more slender: she is very quiet, is used for all purposes of dairy, as also (I have been informed by the natives) for tilling the ground, and is more tractable than the buffalo. The milk which these cows give has a peculiar richness in it, arising, I should conceive, from their mode of feeding, which is always on the young shoots and branches of trees in preference to grass.

“I constantly made it a practice to allow them to range abroad amongst the hills and jungles at Chittagong during the day to browse, a keeper attending to prevent their straying so far as to be in danger of losing them. They do not thrive in any part of Bengal so well as in the aforementioned province, and the adjoining one, Tipperat, where I believe the animal is also to be found.

I have heard of one instance of a female *Gyall* breeding with a common bull.

“I wish it were in my power to give you more particulars, but I am describing entirely from memory.”

*An Illustration of the Grass called by Linnæus Cornucopia alopecuroides.*  
By James Edward Smith, M. D. F. R. S. P. L. S.

SOMETIME between the publication of the second edition of the *Species Plantarum* and that of the first *Mantissa*, Linnæus received from Professor Arduino a single specimen of an Italian grass of a

most extraordinary appearance, which the learned botanist who sent it might possibly form a new genus. The annexed figure (Tab. xii fig. i.) shews the exact appearance of this original specimen. Linnæus remarked its great resemblance to *Alopecurus Prætenfis*, at the same time noticing the inflated sheath of its upper leaf, in which he found it to agree with some species of *Phalaris*. Its most striking peculiarity, however, a membranous eup embracing the lower part of the spike, so strongly accorded with the genus *cornucopiæ*, that Linnæus, without scruple, so determined it, being doubtless well pleased to add a reinforcement to that celebrated and uncommon genus, of which only one species had before been discovered. Nor did he, in this determination, lose sight of his usual accuracy. On a dissection of the flower he found the corolla of one valve only as in *cornucopiæ*, in which mark, indeed, that genus agrees with *alopecurus*, being distinguished from it, as in all other grasses, only by the funnel shaped involucre which contains the flowers. This part being curiously and regularly notched in the original *cornucopiæ*, and the flowers beardless, while, in the grass before us, the flowers are awned and the involucre nearly entire, furnished Linnæus with sufficient specific distinctions, while the general habit and structure, even the inflated sheaths of the leaves, evinced a generic affinity between the two plants. So great, indeed, is this affinity, that but for the involucre, the original *cornucopiæ cuculatum* would be an *alopecurus*: for we have lately become acquainted with some species of the latter, whose flowers more nearly agree with it in structure, than those which Linnæus knew; while the *cornucopiæ alopecuroides* turns out the very identical *phalaris utriculata* of Linnæus, which is itself a real *alopecurus*.

I have, in another place (*Tour on the Continent, Vol. 2. p. 293*) mentioned, that Linnæus described his *Phalaris Utriculata* from other authors, without seeing it, a circumstance which may excuse his very erroneous suspicion of its not being distinct from *phalaris paradoxa*, as well as his not finding it out to be an *alopecurus*, or that the new grass of Arduino was the very same thing. Both these discoveries occurred to me at once, in examining *phalaris utriculata*, for the purpose of making out its full description for the Flora Græca. I found it in character and habit a decided *alopecurus*, and that some new grasses, which Dr. Sidthorp, from their affinity to *phleum gerardi* of Jaquin, had considered as species of *phleum*, were to be referred to *alopecurius* also: even the *phleum gerardi*, perhaps, notwithstanding its having a small inner valve to the corolla, ought, as the accurate Gerard suspected to be arranged under *alopecurus*. Having made this discovery, the recollection of *cornucopiæ alopecuroides* came into mind. It had always been an obscure plant, known only by the Linnæan specimen, nor ever found by any botanist except Arduino. Sir Joseph Banks had more than once looked at the specimen with me. His penetrating judgment suspected something anomalous in it, and I was the more ready to acquiesce in his suspicions, from the plant having been found only once: but neither of us could recollect to what it really belonged, for on comparing it carefully with *alopecurus prætenfis*, to which Linnæus says it is so very like, they proved de-

cidedly distinct. On turning to the herbarium, while full of the idea of *phalaris utriculata*, or rather as it must now be called *alopecurus utriculatus*, I perceived, at once, that this wonderful *cornucopiæ* was no other than a singular variety of that species, characterised by the cup or ruffle which unfolds the base of the spike. With great satisfaction I perceived rudiments of this ruffle on the grass in its ordinary state, though they had escaped the observation of the accurate Scopoli (*Delicia Insularia* v. 1. t. 12.), and the more exact Baver; and further observed, that it does not, in any instance, run down into a sheath. Professor Ardruno's specimen would, at first sight, induce one to suppose, but that the stem is, in his specimen, much thicker than usual, probably from the same cause of monstrosity, which produced the dilated ruffle. Indeed in the true *cornucopiæ*, the notched cup does not form one common cavity with its horn-like support, the latter being truly a flower stalk, swelling upwards, hollow within, but closed at the top, where it bears the head of flowers and the notched involucre. Hence it appears how closely *cornucopiæ* and *alopecurus* are really allied; and it may afford amusement, as well as instruction to the speculative systematic botanist, to consider how far, in this or any other instance, the existence of some strange peculiarity in the parts of fructification themselves, which this of the *cornucopiæ* is not, should lead him to form distinct genera, when general structure and habit do not authorise his proceedings. On the other hand, when other differences too slight, either separately or collectively, to form a character themselves, show a real distinction, we may reasonably expect, and should readily seize some technical character, by which we may define and stamp the newly discovered genus.

Norwich, Oct. 31, 1801.

(To be continued.)

#### OLIVIER DE SERRES.

Olivier De Serres who was born in the year 1539, and died in 1689, was one of those eminent men of whom France may justly boast. From the use he made of his genius for the benefit of his country, not only admiration, but gratitude is due to his memory.

The writings of Olivier comprehend every branch of agriculture, and are even now the best that have appeared of his own nation on this subject. He had a mind which was capable of seizing the most important branches of art or science, and could discover their bounds almost as soon as he had undertaken the inquiry. But we will not anticipate the panegyric that the Editor has placed at the beginning of the volume which we announce, and to which we shall afterwards advert.

The edition, of which this is the first volume, is a tribute, which the Society of Agriculture of the department of the Seine, has paid to the first of their writers on husbandry. It is remarkable on account of the great number of enlightened men who have contributed to enrich the work by their notes, explanations, and criticisms.

The National Convention, in the year 3, decreed (on a report of Eschassériaux, sen, which contained excellent views respecting the

agriculture of France), that Bernard de Palissy, and Olivier de Serres, had deserved well of their country, and that their busts should be placed in the hall of the Convention. The following year, the Minister of the Interior, Benezech, ordered his agricultural committee, consisting of Cels, Gilbert, Harard, Villemorin, Tessier, Parmentier, Rougier de Bergerie, and Dubois, to prepare a new edition of a Treatise on Agriculture, by Olivier de Serres. "This work," says the minister, "which is universally esteemed, and which may be looked upon as a model for all the works on this subject, which have been published since, is the Treatise on Agriculture, by Olivier de Serres, written towards the close of the sixteenth century, and published at the beginning of the seventeenth. But it is now extremely scarce. It would become you to publish a new edition under the auspices of government, with such notes and additions as you may think useful."

Another minister (who, like the preceding, was sincerely interested in the subject of agriculture, hitherto too much neglected, Francois de Neufchâteau) encouraged this enterprise.

Among the papers at the end of the panegyric on Olivier de Serres, is the extract of an order respecting the establishment of agricultural societies, which contain some very interesting articles on this subject, and on which the edition and the panegyric are in some degree founded. The prospectus of this work was read at a public sitting of the National Institute; it contains the following passage. "It is a religious duty to put within the reach of every cultivator, the systems he ought to follow, and nothing conduces more to this object, than the publication of the works of Olivier de Serres."

The Society of Agriculture of the department of the Seine, will have the glory to accomplish, what has been so well begun, and for once it will not be true, that a useful and public spirited idea has not been abandoned for want of perseverance for the accomplishment of it. The minister of the interior has seconded the zeal of this institution, and deserves to share the glory of its execution. In short, the respectable list of subscribers at the beginning of the volume, proves that every class of society throughout France, has been sensible of the value of this new edition. The original work does not need our praises, but we think it useful and interesting to give more in detail, the different subjects with which it is enriched, we shall therefore subjoin a sketch of the work itself.

The eulogy of Olivier de Serres, read at the sitting of the Agricultural Society of the department of the Seine, the first meeting, year 11, by N. Francois Neufchâteau, is the introduction. This speech was to the same effect as that which he had given when he was minister in the year 7, when he was called upon as a member of the Society. This circumstance proves at least that the subject was suited to the taste of the orator. In short, he gave himself up to that kind of enthusiasm, with which he generally writes. But while he passionately admires the hero of French agriculture, he discusses the subject as a biographer, and thinks like a philosopher. He observes judiciously, that "the age of Lewis XIV. so fertile in wonders of every kind, far from having the advantage of the days

of Augustus, by witnessing the birth of the Georgics, is remarkable for its indifference on the subject of agriculture. How destitute was that age of any taste for rural employments; it was devoted to luxury and glory, brilliant it is true, but far from being occupied in husbandry."

Our own experience will convince us of the truth of the observation, that military glory is most dearly earned, and yields least profit. But the author has been aware that it was not fit for him to say every thing; it was necessary to leave something to the imagination of the reader, and although he was ready enough to be more diffuse, he restrained himself, leaving every one to extend or shorten his reflections.

He endeavours to account for the neglect into which this work of Serres had fallen, after having passed through nineteen or twenty editions since the first which was dedicated to Henry IV. in 1600 to 1675. It is a problem that deserves some attention. It seems wonderful that a book which made so much noise when it first appeared, and which had so much success for half a century; this book, which according to Scaliger, Henry IV. always had brought after dinner for three or four months together, should all at once have fallen into such entire neglect. N. Francois de Neufchâteau thinks that Olivier was a protestant, and his book experienced the proscription which took place at the reformation. "When the edict of Nantes took place (says he) the license was withdrawn from all books which were composed by the disciples of Calvin, and for one century and a half the printers in catholic countries did not dare reproduce the Treatise on Agriculture."

This seems the true cause, and N. Francois de Neufchâteau has properly rejected that which has been more generally alledged, viz. the unusual difficulty of the ancient language of Olivier de Serres, who, as N. Francois de Neufchâteau observes, "is one of those authors, whose simplicity and precision has saved from the wreck of French works."

The author of the panegyric on Olivier de Serres, finished the account of his hero, after having named the authors who have done him homage: such as Linnæus, Haller, Arthur Young, &c. he represents him as re-appearing with splendor in the new edition, that we announce, which is a national offering.

The most brilliant title which Olivier de Serres possesses in his having introduced into France the cultivation of mulberry-trees and of silk worms. This began in the Tuileries. That part of the garden now known by the name of the *Orangery*, at the extremity of the terrace *des Feuillans*, was devoted to raising silk worms, and for the dwellings of those who had the care of them: and Olivier de Serres, after the plan of Henry IV. made in the garden, which now is the public walk, a nursery containing 20,000 feet for white mulberry trees. N. Francois de Neufchâteau regrets, not without reason, there being no inscription to recall this circumstance. He proposes to plant in the garden of the Tuileries, a clump of mulberry trees, and a marble tablet with the following inscription:

*C'est ici*

*Qu'au commencement du 17e siecle,  
Sous le regne de Henry IV,*

*Et de l'ordre exprès de ce Prince,  
20,000 mûriers blancs rassemblés et plantés.  
Par les soins d'Olivier de Serres  
Donnerent le moyen de propager cet arbre utile,  
Et d'élever les vers à soie  
Dans l'heureux climat de la France.  
En mémoire de quoi  
Ce marbre est érigé,  
Sous le Consulat de Bonaparte,  
L'an..... de la République.*

We think, with the author, that this monument would be far preferable to the insignificant and frequently odious statues which are intended as decorations to the public gardens. We are therefore inclined to second his wish, which we think not only applies to the statues of the ancient mythology, but even to those of the Cæsars.

This panegyric on Olivier de Serres is followed by an imitation from the same person, of the epistle in latin verse, addressed to Olivier de Serres in 1599, by Francois Chalander, lieutenant-governor of Bas. Vivarais has written a poem of 400 verses in praise of this author. Another poetic epistle of about 850 verses is at the end with several other latin, as well as French pieces on the same subject.

The panegyric of N. Francois are followed by nine articles, viz. 1. An extract from the historical paper in praise of Olivier de Serres, by M. Dorthès, who was rewarded by the Royal Society of Montpellier. 2. An extract from a plan of a decree presented to the National Convention by the Elder Eschaffériaux. 3. A letter from the minister of the interior, Bénézech, to the members who composed the agricultural council of the government, to invite them to give a new edition of the work of Olivier de Serres. 4. An extract from an order of the minister of the interior, Francois, reviewing all that had been done for the encouragement of agriculture. 5. A prospectus of the new edition by the order of the society of agriculture of the Seine. 6. An account of Olivier de Serres, by C. La Boiffère, formerly advocate-general of the Parliament of Grenoble. 7. Explanations of several passages in the former account, by M. Francois. 8. An extract from a letter of C. Faujas, professor of natural history. 9. List of the subscribers opened by C. Casarelli, prefect of the department of l'Ardèche, to erect a monument to the memory of Olivier de Serres.

After these is added an historical essay, containing enquiries on the state of agriculture in Europe, in the sixteenth century, by C. Gregoire.

*(To be continued.)*

*A general history of Quadrupeds. The figures engraved on wood by T. Bewick, Newcastle-upon-Tyne. Hodson, Beilby, &c. Royal 8vo. 526 pages.*

PERHAPS there can be few productions more curious, interesting, or important in a work devoted to agriculture, at the present

period, than those connected with the history of quadrupeds. On this account, with particular pleasure, we notice the valuable detail on this subject, given to the public, with the figures engraved on wood, by T. Bewick: and whatever may have been the disregard of system in this work, the conductors have not been prevented from attending to the great divisions of quadrupeds so obviously marked out by the hand of nature, and so clearly distinguished, that the most careless observer cannot avoid being forcibly struck with an agreement of parts in the outward appearance of the different individuals of which it consists.

The following observations on the improvement of the English horse, will be found to deserve attention:—"Considerable improvements have of late years been made in this kind of horses, by Mr. Bakewell, of Dishley, and others; who, by great ingenuity and attention, have acquired such celebrity, that they frequently sell stallions of their respective breeds for two hundred guineas; or, what is a more general practice, let them to hire by the season, for forty, eighty, or perhaps an hundred guineas; and some of them cover at five guineas a mare. The form of the black Lincolnshire horse has, by their management, been materially altered: The long fore-end, long back, and long thick hairy legs, have gradually contracted into a short thick carcase, a short but upright fore-end, and short clean legs; experience having at length proved, that strength and activity, rather than height and weight, are the more essential properties of farm horses.

"Another advantage possessed by this improved breed, is its hardiness, or thriving quality; its being able to carry flesh, or stand hard work, with comparatively little provender. This hardiness of constitution, or natural propensity to thriving, the Leicester breeders assert is hereditary in particular individual breeds or lines of horses. If this observation be just, and that the feeding quality can be obtained with any degree of certainty by management in breeding, in this as well as other kinds of live stock, it is a most interesting circumstance in the nature of domestic animals."

The following observations on some peculiarities in the breed of wild cattle, will also be interesting to our readers:---"When the cows calve, they hide their calves for a week or ten days in some sequestered situation, and go and suckle them two or three times a day. If any person come near the calves, they clap their heads close to the ground, and lie like a hare in form, to hide themselves: this is a proof of their native wildness, and is corroborated by the following circumstance that happened to the writer of this narrative, who found a hidden calf, two days old, very lean and very weak:---On stroking its head, it got up, pawed two or three times like an old bull, bellowed very loud, stepped back a few steps, and bolted at his legs with all its force; it then began to paw again, bellowed, stepped back, and bolted as before; but knowing its intention, and stepping aside, it missed him, fell, and was so very weak that it could not rise, though it made several efforts: but it had done enough; the whole herd were alarmed, and coming to its rescue, obliged him to retire; for the dams will allow

no person to touch their calves, without attacking them with impetuous ferocity.\*

When any one happens to be wounded, or is grown weak and feeble through age or sickness, the rest of the herd set upon it, and gore it to death.

The weight of the Oxen is generally from forty to fifty stone the four quarters; the cows about thirty. The beef is finely marbled, and of excellent flavour.

Those at Burton-Constable, in the county of York, were all destroyed by a distemper a few years since. They varied slightly from those at Chillingham, having black ears and muzzles, and the tips of their tails of the same colour; they were also much larger, many of them weighing sixty-stone; probably owing to the richness of the pasturage in Holderness, but generally attributed to the difference of kind between those with black and with red ears, the former of which they studiously endeavoured to preserve. The breed which was at Drumlanrig, in Scotland had also black ears."

The subsequent remarks on the improvements in the Holstein, or Dutch bull, must be of importance to the farmer:—"The first, and most obvious, is beauty of form,—a principle which has been in common applied to every species of domestic cattle; and, with great seeming propriety, was supposed to form the basis of every kind of improvement; under an idea, that beauty of form and utility were inseparable. But at present, a distinction is made, by men who have been long conversant in practice, between a useful sort and a sort that is merely handsome. Utility of form is therefore the next general principle, and may be considered as arising from a larger proportion of those parts which are the most useful: thus, for instance, all those parts which are deemed *offal*, or which bear an inferior price, should be small in proportion to the better parts. A third principle of improvement, laid down by breeders, consists in the fineness of the muscular parts, or what is termed *flesh*. But the great object which engrosses the attention of breeders at present, is the *fattening quality*, or a natural propensity in cattle to arrive at a state of fatness at an early age, and in a short space of time: and it appears, from observation, that beauty and utility of form, the quality of the flesh, and its propensity to fatness, are principles consistent with each other, are frequently found united in the same individual, and hereditary in particular lines or families of cattle.—In regard to the means of improvement, it has long been an established maxim, that, to improve the breed, it is necessary to cross it with others of an alien stock, under an opinion, that, continuing to breed from the same line, weakens the flock. This idea, however rooted it may have been in the minds of former practitioners, is now entirely set aside by the modern practice of breeding, not from the same line only, but from the same family: the sire and the daughter, the son and the mother, the brother and sister, are now permitted to improve their own kind. This practice is well known under the term of breeding,

\* Tame Cows, in season, are frequently turned out amongst the Wild Cattle at Chillingham, and admit the Bull. It is somewhat extraordinary, that the calves produced by this means are invariably of the same colour with the wild breed, (white, with red ears) and retain a good deal of the fierceness of their sire.

*in-and-in*; and, in this way, the improvement of the several breeds has advanced rapidly to a height unknown before in any age or nation.

The practice of letting out bulls by the season has contributed very materially towards the improvement of this valuable breed; as, by this means, one bull, instead of being useful to his proprietor only, may, in a few years, extend the benefits of his flock through a whole district; and so fully are the stock-masters convinced of its advantages, that eighty guineas have been given for the use of a bull for one season. Some bulls are in such estimation, as to leap at the extraordinary price of five guineas a cow: and it is, perhaps, a circumstance worth mentioning, that Mr. Fowler, of Rollright, in Oxfordshire, in 1789, for ten bull calves, refused five hundred guineas.\*

These observations of the ingenious author on the cheviot ram, cannot be otherwise than acceptable to the reader:—"The best breeds of these sheep are to be found in the north-west parts of the county of Northumberland, and on the range of hills adjoining them in Scotland, and are maintained (except when prevented by snow) solely from the natural produce of the grounds on which they depasture, which, in general, are very mountainous, and consist of ling, moss, hather, deer-hair, and wire-bent, with a mixture of green sward. We can find no account from whence this valuable breed originally sprung, which, as mountain sheep, are unrivalled, as well on account of their carcases and hardiness, as from the superior value of their wool, which is in the highest estimation for cloathing, and sells from 2d to 2½d. per pound higher than the best in the district. The great demand that has been made for this wool, added to the encouragement given by Sir John Sinclair, (who, for a few years, bought considerable numbers of these sheep, which he took to the Highlands of Scotland, and now breeds them upon the same kind of heathy mountains as the original stock were taken from) caused an emulation amongst the breeders, which has been productive of considerable improvement in their stocks, both in the wool and fore-quarter, in which they were generally deficient. But as improvements in stock can only be affected by slow gradations, and as this improved breed is but of a few years standing, it will probably be advantageous, not only to individuals but to the public at large, to encourage exertions which, if fortunately successful, might place these sheep upon a level with those produced upon well cultivated grounds, which might be otherwise more advantageously employed for the use of the public.

"Thus the difficulty of producing an improved breed for heath pasture has, in a great measure, been removed by the skill and

\* This valuable stock was sold off in March, 1791, at the following enormous prices, viz.

Garrick, a five-year old bull,	-	205 guineas.
Sultan, two years old,	- - -	210
Washington, two years old,	- - -	205
Young Sultan, a yearling bull,		200
Two yearling bulls,	- - -	245
Brindled Beauty, a cow,	- - -	260
Washington's mother in calf	-	185
Some of the Rams sold as high as		60

attention of the Northumberland farmers, to whom we think the community much indebted; and we doubt not that, in the course of a few years, this breed will become the parent stock of all the sheep bred for grazing on heathy, and what are called waste, grounds. They thrive on the most sterile heaths, their wool is of the most desirable texture, they are easily fattened, and their whole conformation is so properly suited to mountainous pasture, that we are surprised the breed has not already been more generally diffused."

We shall here likewise introduce some remarks on the Leicestershire improved breed:—"It seems to be generally agreed, that in sheep, as well as in all other animals, there is a certain symmetry or proportion of parts, which is best adapted to the size of each particular animal; all those of each kind that exceed or fall short of this pitch, are more or less disproportioned, according to the size they attain; and in the degree they are advanced beyond this line of perfection, we find them less active, weaker, and always less able to endure hardship. Thus, by selecting the handsomest and best proportioned of their kinds, the judicious breeder has gradually arrived at a degree of perfection in improving this animal, unknown at any former period.

"The superior qualities of the Leicestershire breed are, that they will feed quickly fat at almost any age, even on indifferent pastures, and carry the greatest quantity of mutton upon the smallest bone. Their carcases are round, have remarkably broad backs, and short legs; and to shew the immense weight to which they may be fed, we give the measurement of a ram of Mr. Bakewell's mentioned by Young in his 'Eastern Tour':—at three years old, his girth was five feet ten inches; height two feet five inches; breadth over his shoulders, one foot eleven inches and an half; breadth over his ribs, one foot ten inches and an half; breadth over his hips, one foot nine inches and an half.

"The great importance of this breed of Sheep will best be shewn, by stating the following facts respecting the modern practice of letting out rams for hire by the season; which from very small beginnings, has already risen to an astonishing height; and is likely, for some time, to prove a copious source of wealth to the country at large. About forty years ago, Mr. Bakewell let out rams at sixteen and seventeen shillings a-piece; and from that time, the prices kept gradually rising from one guinea to ten. But the most rapid increase has taken place since the year 1780. Four hundred guineas have been repeatedly given. Mr. Bakewell, in the year 1789, made twelve hundred guineas by three rams; two thousand of seven; and, of his whole stock, three thousand guineas. Astonishing as this may appear, it is nevertheless an undoubted fact. But it ought to be observed, that these great prices are not given by graziers, for the purpose of improving their grazing stock; but by principal breeders, in order to procure a stock of rams of the improved breed, which they let out again to breeders of an inferior class. The prices given by graziers, for the sole purpose of getting grazing stock, seldom exceed ten guineas, which is considered as an extraordinary price, five or six guineas being most frequently given."

# HISTORY.

## AGRICULTURE.

### PROCEEDINGS OF AGRICULTURAL SOCIETIES.

#### *Penistone Agricultural Meeting—Yorkshire.*

THE autumnal meeting of the Wortley Farmers Club was held at Penistone, on Friday the 19th of October, when the following premiums were adjudged: To

Mr. Thos. Eyre, senior, Woodlands, for the best Penistone wether off the moss,	£. 5.	I I
Mr. Ronksley, Hollow Meadows, the best fat Penistone wether,		I I
Mr. Thomas Eyre, junior, Flashouse, do. do. ewe,		I I
Mr. Berks, Water Hall, do. do. polled wether,		I I
Mr. Thomas Parkin, Wortley, do. do. gelt ewe,		I I
Mr. George Chapman, Penistone, do. do. polled ewe, having suckled a lamb,		I I
Mr. Ronksley, the best Penistone ram,		I I
I. A. S. Wortley, Esq. the best polled shearling ram,		I I
Mr. Hargreave, Gunthwaite, do. do. aged,		I I
Mr. Ellis, Midhop, the best tup lamb, Penistone,		I I
Mr. Hague, Blackmoor, the best do. do. polled,		I I
Mr. Woodcock, Wortley Forge, the best milch cow long horned,		I I
Mr. James Eyre, Thurlstone, do. do. short horned,		I I
Mr. Berks, the best fat cow,		I I
Mr. James Eyre, the best fat pig,		I I
Mr. Thorpe, Banks, the best sample of wheat,		I I
I. A. S. Wortley, Esq. do. do. oats, (potatoe)		I I
Mr. Kelly, Wortley, junior, do. do. barley,		I I
An additional premium, offered at this meeting, for the best Penistone ewe, having suckled a lamb, was adjudged to Mr. Hague,		I I
To James Hague, shepherd to Mr. Hague, of Blackmoor, having raised 61 lambs from a flock of 67 Penistone ewes,		I I
To John Simpson, shepherd to Mr. Thorpe, Banks, having raised 131 lambs from a flock of 110 polled ewes,		I I

The meeting was most respectably attended, and several new members were elected. The shew, particularly of sheep and pigs, gave universal satisfaction.

From a laudable desire of promoting the objects of the Society, Josias Verelst, Esq. and Mr. Foster, of High Green, though rendered incapable of obtaining any premium, by the regulations of the Club, gratified the company by exhibiting some very capital stock. It is but justice to Mr. Foster to add, that he is indefatigable in advancing the interests of the Wortley club, notwithstanding a restriction imposed upon him by the original regulations, by which, from the acknowledged superiority of his sheep flock, he is not to enter the list for two years from the date of the institution.

The annual meeting of the Hereford Agricultural Society, held on Friday last, in that city, was uncommonly numerous and respectable, and the shew of cattle and sheep, by far the finest that has yet been exhibited. The premiums were adjudged as follows: for the best heifers, to J. Walwyn, Esq. of Hellens, and T. A. Knight, Esq. of Downton; for the best pen of sheep, to Mr. Moses Edwards; and for the best variety of apple, to T. A. Knight, Esq. who generously declined receiving it; for planting the greatest quantity of quick, to J. H. Apperly, Esq. The premiums for long servitude were awarded to Jeremiah Bagley, of Allansmoor, and Thomas Eustace, of Preston-upon-Wye.

The three ploughing matches ordered by the Perth and Forfarshire Agricultural Society, will take place as follows: The first on Mr. Kinnear's farm of Inchmartin, on the 12th; the second on the farm of Mr. George Richmond, parish of Monedie, the 19th; and the third on Capt. Laird's estate of Strathmartin, on the 26th of November. To commence at nine o'clock forenoon. If the weather shall be so unfavourable on any of these days as to prevent the match proceeding, it will take place on the day following. Premiums will be given to the best ploughmen; and being the first ploughing matches in this part of the country, many competitors will start, and a display of great skill and dexterity is expected.

*Newark Agricultural Society.*

A meeting of this Society was held on Tuesday the 16th day of October, when the premiums for ploughing, were adjudged as follows:—

To John Noon, serving man, to Mr. Richard Milward, of Hexgreave Park	£.	s.	d.
	3	0	0
To Robert Pritchter, serving man to Mr. Henry Huggins, of South Muskham	2	2	0
To John Dawn, serving boy to Mr. John Milward, of Hockerton	1	11	6

The after mentioned premiums are proposed for the ensuing year, to persons residing in the county of Nottingham, or in the district 25 miles round Heward, viz.

For the best short horned bull, not more than two years and six months old when shown. The owner to engage to keep him in public use one year	12	12	0
In case the best bull shown should happen to be deemed, in the opinion of the judges, not sufficiently good for a special recommendation to the public, as likely to bring the breed to perfection	3	3	0
For the best long woolled tup hog	5	5	0
For the next best	3	3	0
Carcase both considered.			
For the best fine woolled tup hog, wool and carcase taken together	3	3	0
No person to be excluded from being a candidate for these premiums provided he engages to let the tup produced to any responsible person for the sum of ten guineas.			
For the best four ewe hogs, wool and carcase considered	5	5	0
For the four next best	3	3	0
For the best boar	2	2	0
For the next best	1	1	0

The different cattle, sheep, &c. to be the property of the respective claimants, and to be shewn at the next summer meeting, which will be held at the Saracen's Head, Southwell, on the first Tuesday

in July, 1805: Liberty will be allowed for the fleeces to be taken off at any time after June, on condition of their being produced at meeting, with a certificate signed by two respectable neighbours, setting forth the weight of the fleece, as well as the day of clipping.

TO BE JUDGES OF THE BULLS AND BOARS.

William Sherbrook, Esq. John Brettle, Esq. and Mr. Richard Welby.

TO BE JUDGES OF THE SHEEP.

Mr. Richard Milward, Mr. Edward Jones, and Mr. Gilbert Maltby.

SECOND CLASS.

To the persons who shall plough in the best manner, with two horses abreast, half an acre of loamy ley-land for wheat feed

To the best ploughman	-	-	-	-	3	3	0
To the second best	-	-	-	-	2	2	0
To the third best	-	-	-	-	1	1	0
To the best ploughboy under eighteen years of age	-	-	-	-	1	11	6
To the second best	-	-	-	-	1	1	0
To the third best	:	-	-	-	0	10	6

The work to be undertaken on the day of the next October meeting, and to be completed within four hours and a half from starting, or in such further time as the judge may think proper to allow, according to the condition of the ground, or in case of accident. The boys to produce a certificate of their age.

Candidates for any other of the above premiums are required to give notice to the Secretary at least seven days before each meeting; and it is to be understood that if the stock produced, or the undertaking does not appear in the opinion of the respective judges to be worthy of a prize, the premium will be withheld.

G. H. BARROW, Sec.

Southwell, Oct. 20, 1804.

York Agricultural Society.

At the half yearly meeting of the York Society, held at the Robinhood Inn, Castlegate, on Monday, August 13, Sir Wm. Milner, Bart. in the chair; Mr. George Addinell, of Tadcaster; Mr. George Hardwick, of Burton-house; and Mr. Hodgson, of Haxby, were appointed judges of stock, who gave in their decision as follows, viz.

To W. B. Lund, for the best three years old heifer	-	3	3	0
To Mr. Kettlewell, for the second best	-	2	2	0
To Mr. R. Treffett, for the best two years old heifer	-	3	3	0
To Mr. Edward Carter, for the second best	-	2	2	0
To Mr. James Ward, for the best shearing tup, No. 2	-	5	5	0
To Mr. James Ward, for the second best shearing tup, No. 3	-	3	3	0
To Mr. James Ward, for the best two shear tup, No. 1	-	4	4	0
To Mr. R. Treffitt, for the second best two shear tup, No. 7.	-	2	2	0
To Mr. Robert Wiley, for the best ten shearing gimmers	-	3	3	0
To John Kilby, Esq. for the best boar	-	2	0	0
To John Birbeck, for the second ditto	-	1	1	0

The premium of ten guineas was voted to Mr. George Addinell of Tadcaster, for his Moor farm (which he holds of the Earl of Egremont) being in the best state of cultivation, and on which the best course of cropping, together with the best manner of converting the straw into manure is practised, together with neatness of fences, ditches, &c.

Two guineas were also voted to Mr. Wm. Judson, for a quicking rake, which he exhibited.

## FAIRS.

So many sheep were never known at St. Simon and Jude fair, as were exposed for sale here. The quantity of neat cattle was pretty considerable too: Both went off readily. The shew of horses was small, as usual, and commanded good prices.

At Horncastle October fair there was a remarkable fine shew of horses: Prime cattle had a very brisk sale, and fetched high prices; but indifferent horses hung on hand. There was the largest shew of beasts and sheep on the fair morning ever remembered, both of which were very heavy of sale.

At Newark All Saints fair, there was a very large shew of stock of every description. Good horses met with a ready sale. Horned cattle sold at reduced prices.

At Leicester fair there was a considerable show of sheep and neat cattle. Stock of every kind, good and useful, was ready sale, and higher than expected. There was a larger quantity of cheese than has been known for some years;—price from 38s to 63s.

At Hereford fair, the shew of cattle was one of the largest ever witnessed, and the number of prime beasts of the true Hereford breed, was very great, and generally speaking, they averaged from 6d. to 7d. per lb. The horse fair exhibited but a small number of animals, and those of a very inferior sort, good horses met with a quick sale, and fetched high prices. Butter, of which there was a large quantity, brought from 10s. to 12s. per stone of 12lb. Cheese averaged the two-meal, from 56s. to 68s. and best making from 60s. to 70s. per cwt. Upwards of 1100 pockets of hops were weighed at the market scales, the prices were from 3l. 10s. to 4l. and on Mon-fome sold as high as 4l. 4s.

There was very little variation either in the price or shew of cattle, sheep, &c. at Worcester fair on Monday last, from that of the preceding one. There was but an indifferent supply of horses, which were principally of the draught kind.

At Salisbury Michaelmas fair, on Tuesday, a very large quantity of cheese was pitched and met a brisk sale; old cheese from 70s. to 76s. per cwt.; best ditto 88s. good new from 52s. to 56s. inferior as low as 30s. The average price of good potatoes, 6s. 6d. per sack. Onions were in great plenty, and sold remarkably cheap.

Winchester Michaelmas fair was held on Wednesday. The shew of sheep was not so great as on former occasions, and the ground was soon cleared at very high prices. Bacon was also very dear. Cheese seemed to be the only article which did not advance in price; though the quantity brought was by no means large, yet the dealers were not eager to purchase; the prices in general were 3l. to 3l. 3s. but some remaining unsold, the prices lowered the next morning. The horses were mostly of the cart kind, and those that were good very dear. The usual attendants at fairs were not idle; several persons lost their purses, &c.

At Stow fair on Wednesday se'nnight, there was a very large supply of cheese; and best making averaged about 3l. per cwt. There was a fine shew of both horses and sheep; the latter rather advanced in price.

At Bridgnorth fair on Monday and Tuesday last, fat beasts sold from 6d. to 6½d. per pound, sinking the offal. Sheep at about the same prices. Good nag horses sold at high prices; but strong waggon colts and waggon horses met with very dull sale. Salt butter

per gawn of 12lbs. fold from 11s. 6d. to 12s. New meal cheese from 70s. to 76s. per cwt. of 120lbs.; fine old ditto at 4l. 10s. A short supply of both cheese and butter. New hops fold from 70s. to 88s. per cwt. Many of the light fingered gentlemen attended the fair, and met with some success; though one was unfortunate enough to be detected in picking the pocket of Mr. Edward Giles, of Tedstall, near Bridgnorth, of his pocket book, containing bills to a considerable amount, and is safely lodged in the prison of that town.

The fair at Trevena, on Friday last was, like all our other fairs have lately been, very dull.

The first pitched market at Marshfield, on Tuesday, was very well attended. There was a great demand for barley, and the wheat nearly all fold. All the ordinaries were completely filled; and a very large company of gentlemen, farmers, and dealers partook of the good old English fare in an excellent room at the King's Arms, who were unanimously of opinion that in a short time Marshfield, from its central and convenient situation, would become the largest and most complete corn market in this part of the country.

At Hexham fair, on Thursday last, there were many lean beasts, but little demand; few fat and high priced; fat swine were high, but numbers of lean, and pigs were never asked after.

*Ayr, Oct. 18.*—At the Michaelmas fair, this week, there was rather a scanty supply of cloth, but a number of purchasers. Prices from a penny to twopence per yard dearer, and not enough of cloth to answer the demand. There was also a great number of horses; good ones brought high prices.

At Morpeth Martinmas fair on Wednesday last, there was a full market of cattle, sheep and lambs, but not many fat. Sale dull, and many left unfold. Beef 6s. to 7s. Mutton 5s. to 6s. 9d. per stone, sinking offals. Wheat 60s. to 70s. per quarter. Rye 44s. to 46s. Barley 34s. to 34s. 8d. Oats 21s. 4d. to 28s. Pease 44s.

On the 2d instant, the fair of Tynemouth and North Shields was well attended. At eleven o'clock the Duke of Northumberland's bailiff, accompanied by a vast concourse of neighbouring gentlemen and farmers, attended by the Dutchess's bag-piper, in proper uniform, proclaimed the fair in the usual way. The show of fat cattle was small, but being in high condition, they fold well. Milch cows and swine were high, the latter unexpectedly so. Good horses went off well, but inferior were unsaleable. The hiring of servants, both at Tynemouth and North Shields, was great, few going away unengaged.

On Wednesday last, at Inchtire corn market, wheat fold at 36s. to 37s. Barley, 25s. to 27s. 6d. There were sheep at the market, but few buyers. A ready sale for oats, barley and wheat.

Tuesday there were 320 bolls of oatmeal in Edinburgh market, which fold from 19s. to 20s. per boll. Retail prices per peck of best oatmeal, 1s. 3d. second 1s. 2½d. There were also 60 bolls of pease and barley meal, which fold from 12s. 9d. to 15s. per boll. Retail prices per peck, 11d. to 1s.

At Newcastle fair on Monday last, there was a good show of horses, the prime of which fold for uncommonly great prices, and the market in general may be estimated as dear. Fat cattle were rather low; lean cattle and kylpes, high. Pigs very numerous and cheap. Calf skins from 2s. 8d. to 2s. 10d. Backs from 2s. to 2s. 1d. Hides from 2s. to 2s. 1d. per pound.

At Longframlington fair, on the 25th there was a great shew of sheep and black cattle, which fold very quickly at advanced prices; also a great number of young swine, which fold well. Good horses fold

well, the meaner sorts were low. Servants, not being many, got good wages.

At Whitehaven, on Thursday se'nnight, a potatoe stalk was plucked, to which were found attached *ninety-three* potatoes. The original was raised from the crabs of rednosed kidneys in 1799. The bed from which this was taken had been planted only eight weeks.

At Lenton fair, there was a considerable number of neat cattle exposed for sale, which in general commanded good prices, and went off readily.

Carmarthen fair exhibited a good shew of cattle and horses, many of the former were sold, but at low prices, and all the good horses sold high. The pig fair was more numerously supplied with those useful animals than is within our recollection, nor was there ever a better shew of prime pigs, the sale however was extremely dull.

New Radnor fair, exhibited a very large shew of cattle, chiefly stores, which rather advanced in price. But sheep experienced a considerable reduction.

At Sherborn fair, on Monday, there was a large shew of beasts, and a greater number of sheep than has been known for many years. The sale of bullocks was dull, and many were driven home unfold; sheep sold briskly, and prime lots fetched good prices. There were few horses that were good, and the sale heavy.

At Rofs fair, on Thursday, there was but an indifferent shew of either cattle, horses, or sheep; and but few buyers attending, the sale of each was extremely dull. But cheese sold from 66s. to 72s. and second from 56s. to 60s. per cwt. Welsh butter 13s. per stone.

At Chester fair, on Wednesday, there was a very poor shew of horses, which sold remarkably dear; such a large shew of horned cattle, particularly lean stock, was never witnessed, and they were never known so cheap; swine were also low; the quantity of Irish linen was great, in the price of which there was no variation, except in coarse goods, which were unusually scarce and dear: of Manchester and Scotch goods there was a superabundance and remarkably cheap; hops sold from 4l. to 4l. 10s. per cwt.

Weyhill fair was as usual most numerously attended. Cattle and all sorts of horses sold well. Cheese fetched nearly as follows: half coward from 38s. to 45s. per cwt. ramell, or coward milk from 54s. to 57s. per cwt. A few prime lots sold the first day at from 60s. to 63s. per cwt. Old cheese from 80s. to 84s. per cwt. Many lots of new cheese went away unfold.

An unusually large number of cattle and horses were brought to Swansea fair, the sale of which was extremely heavy, and little business was done. Wool was also in plenty, and the whole was bought up at rather advanced prices. Lambs wool 13d. and long ditto 12d. per lb.

At Hay fair, cheese and butter were lower than last year.

Llanelly fair on Monday, was more fully supplied with cattle than has been remembered this twenty years past. The prices were low, sale dull, and above 300 head were drove off Abergevilly early in the day. Lean beasts fetched a better price in proportion to fat. Few sheep were exposed for sale, and those of small and inferior kind, very few exceeded the price of 10s. per head. The horses were chiefly of the inferior sort, for which few purchasers were found. Pigs were in abundance; those fit for slaughter were sold as low as two-pence halfpenny, and threepence per pound, and great numbers were driven away unfold.

At Brecon leather fair, there was a brisk demand for leather, and

prices rather advanced. Backs brought 2s. per pound, crop hides 2s. 1d. and Buffaloes 1s. 8d. to 1s. 9d.

At Applehaw fair, this week, the supply of Dorset and Somerset ewes was under the quantity of former years. There was about 4000 Dorset, and 6000 of the Somerset breed. Forward ewes fetched on Friday nearly as high prices as at Winchester Michaelmas fair, but they declined toward the evening, and many remained unfold.—Wiltshire, Hampshire, and South Down sheep were sold on Saturday morning at less prices than they have fetched in general at the last west country fairs, and the sale heavy. On Friday prime forward ewes fetched 58s. per head; middle ditto 40s. and some went as low as 28s. On Saturday, South Devon ewes 40s. horn ewes 30s. and lambs from 14s. to 22s. Whether the late cautions against pickpockets had driven the thieves away, or they had better game in view we know not; but they did not make their appearance.

At Bury butter and cheese fair, there was a supply more than equal to what has been for several years. On the first and second day, prime firkins produced 56s. and some few to private families obtained 57s. and even higher. On the last day the sellers could not find buyers sufficient at 54s. the sales being very dull and full. Three hundred firkins were taken back unfold. Common household cheese was dull of sale at any price. There were but very few horses, and but little stock of any kind in the fair, and being mostly of the ordinary sort, sold heavily.

At Ipswich cheese and butter fair, last week, the average price of dairies was 56s. per firkin, and Suffolk cheese from 48s. to 50s. per wey.

Ballinasloe fair, Ireland. The clerk of the fair's return of sheep at the late sales, was as follows,

Sold	78,728
— Unfold	5,501

Total in the Park 84,229

The horned cattle amounted to 21,614, which were all disposed of in one day.

There are a few peculiar circumstances usually attendant on this great cattle mart of Ballinasloe, not generally known. The various flocks of sheep thus exhibited in Lord Clancarty's park, are very skilfully kept in their almost numberless detachments, by the adroitness of the several classes of shepherds with sticks, and without the use of a single dog. All women, of whatever rank, are proscribed admission in either fair of sheep or cattle, on account of a disastrous occurrence many years past (both kinds of stock being then exhibited together in the park) from the appearance of some *red cloaks*, at which the bullocks became so indignant, as it were by mutual antipathy, that they broke down a great length of the park stone wall, and extending their front in this wild career, carried away other fences before them, to the great damage of the country for miles, and very considerable loss to the proprietors of cattle. The flocks of sheep also formed *en masse*, and followed their horned leaders. From that period, if an unfortunate female stray into the park, a cry (we believe unknown in *Arcadia*) of *w—re! w—re!* resounds from every quarter, until the fair offender flies the field.

The shepherds and attendants, ranged round the various flocks on this occasion, generally amount to from 12 to 1500 men. Nothing can exceed the regularity of their conduct during the business of the fair; but that being over, they seem to claim, as by prescription, an inspiring libation of their favourite *whiskey*, and its indispensable

consequence, a *row!* with these genial rites, the last fair was thus duly closed. The shepherds, who assembled at the several public houses through the Fair-street, in proportion as they became *whiskied*, began brandishing their sticks, impatient for the signal of affray: about five o'clock, one of the most distinguished of this tribe of *Pan* sallied forth into the middle of the street, and exclaimed aloud, "*Blood and tunder, who dare snaze?*" [SNEEZE.] A knight of the Irish sseece, no less valorous, instantly threw himself in the front of the challenger, and as loudly replied, "*I am the lad to snaze in your teeth!*" Upon this, the street was filled with uplifted sticks, and at it they set, regardless of whom they struck, or by whom they were smitten; till having a good belly full of their favourite *row*, they left off by a kind of general consent, and retired to their respective liquor houses, to heal their wounds with never failing *whiskey*. Fortunately, no accident occurred beyond the customary returns of broken heads, and bloody noses!

At East-Bourne fair, there was a very large shew of sheep and lambs, which were bought up quickly, and sold at high prices. Ewes, especially, were in great request.

An unusual number of Welch runts were exposed to sale at Steyning fair, as well as a great shew of store hogs, and a great deal of business was done, though the weather was extremely unpropitious and unfavourable, the rain falling in torrents the whole day.

At Rowlands Castle fair, the shew of cart horses and nags was considerable, but high prices were asked. Beasts were dull of sale, and pigs were very heavy on the sellers hands. For wheat, 100 or 110s. per quarter were asked. Barley coming in scantily, sells at a very high price. Oats are likewise advanced. In pease and beans not much is done. The market, the last day, was dull for every sort of grain, with little variation in price. The supply was extremely short.

At Chelmsford fair, there was but an indifferent shew of cattle and sheep; yet, notwithstanding the smallness of the number, they were heavy of sale. A large quantity of horses, among which were many good ones, mostly of the cart kind, were exhibited, for which high prices were demanded, but by far the greater part remained unsold.

At St. Faith's fair, there was a very large supply of cheese and butter, which sold heavily at the following prices. One meal cheese to housekeepers sold from 7l. to 7l. 10s. and butter from 56s. to 60s. But 6l. 10s. to 6l. 15s. were the more general prices given by the trade for cheese, and 54s. to 56s. for butter, though on the second day some was sold for less.

#### MISCELLANEOUS INTELLIGENCE.

A rabbit was caught in the Duke of Ancaster's park last week, that had a tooth in its upper jaw full an inch and a half long.

*Remarkable circumstance.*—We are assured there is, at the present advanced state of the year, near the nursery of Mr. Haynes, at Oundle, a crow's nest with eggs or young birds in it.

It has been a remarkably fine sowing time, and most of the wheat is got in the ground: what is up looks very promising. The turnips have come on very rapidly with the rain, and will produce much more keep than was at first expected. From the corn that has been threshed, we may calculate pretty certainly on the quantity produced. Wheat is in many places much injured by mildew, and will produce less than the mildewed wheat of last year; and in the whole a very considerable deficiency will be found. Barley is of good quality, but short in quantity; owing both to the little land sowed, and the little yield

per acre. Oats will be found an average crop.—Wheat averaged at Mark-lane, on the 6th instant, 71s. 10d.—and on the 13th, 74s. 5d. The present average of all England is, wheat, 67s. 2d. rye, 39s. 4d. barley, 34s. 9d. and oats, 25s. 2d.

Clover, when in full bloom, promised an amazing crop; the result will be, that much will not pay for threshing out the seed; the quality will be good. In Whitechapel market hay fetches from 3l. to 3l. 10s. clover, 4l. to 5l. 10s. and straw, 1l. 10s. to 1l. 16s.

In the grounds at Mirehouse, near Kewick, belonging to J. Speding, Esq. there was lately dug up a single root, to which eight potatoes were attached. Six of these weighed fourteen pounds.

**THE POTATOE.**—This most excellent and wholesome root is very rarely cooked in the manner it merits, and whereby it may be made into food at least as nutritious as in any species of our diet. Here follows the true Lancashire receipt.—

Sort out your potatoes as to size, scrape off the rind, put them in an iron pot (if cast-iron the better) simmer them until they begin to crack, and a fork will pierce them easily; after this, pour off all the water, put away the lid of the iron pot, sprinkle over them some salt, and shake up well; after this, place the pot at the edge of the fire, and there let it remain for an hour or more; in this time, all the moisture of the potatoe will gradually exhale in steam, and you will find them (be the sort or growth what it may) white and flakey as snow, and in such a state of eating as those only can judge who have tried them. Take them out with a spoon or ladle.

*Potatoes a la Maitre d'Hotel.*—After your potatoes are put into the dish for the table, pour on them some melted butter, into which a few (unboiled) parsley leaves are finely chopped.—An *iron pot* is indispensable.

*Brand, or smut in wheat.*—We have the authority of a most respectable and judicious farmer to say, that if wheat is dressed in the following manner, it will not be infected with brand or smut, on any land, or in any season.

There is now in the possession of Mr. J. Martin, of Bosham, the largest apple that was ever known to have grown in this part of the country; it is more than four inches high, and fourteen inches in circumference.

*Smearing of sheep.*—Immediately after the sheep are shorn, soke the roots of the wool that remain all over with oil or butter and brimstone, and three or four days afterwards wash them with salt and water; the wool of next season will not only be much finer and softer, but the quantity will be in greater abundance. The sheep will not be troubled with the scab or vermin that year. Tar water is a safe remedy against maggots.

In the storm on Wednesday se'nnight, three bullocks were killed by lightning, in the parish of Temple, near Bodmin, Cornwall. The flash first struck a tree, which stood on a hedge, and shivered it from the top to the bottom, dividing the hedge into two parts, made a deep furrow in the field of several yards, to the place where the bullocks stood, and killed them upon the spot, without leaving the slightest appearance of a wound.

Strawberries were gathered last week ripe; and a medlar tree is now bearing a great quantity of fruit from a second blossom, blowing while the fruit of the first blossom is on the tree, in the garden of R. W. Miffing, Esq. of Postbrook cottage, Titchfield, Hants.

Many flights of wild fowl have already made their appearance in our levels, which is considered as indicative of a hard winter. The fowlers have been successful in their pursuit of them, in their brooks about Barcomb.

In the orchard of Mr. Benjamin Morgan, of Gedding, Suffolk, there is a very large apple-tree, called the Old Pearmain, which has been for three weeks in full bloom, although the fruit growing on the same tree is now in the utmost perfection.

Last Tuesday a carter in the service of Mr. Bishop, of Westburton, in this county, in jumping from the shafts of his waggon, whilst in motion, fell under the wheels, which passed over one of his legs, and extraordinary as it may appear, without breaking it, or materially bruising the flesh. 'Tis astonishing that the frequency of such accidents, which often prove fatal, does not deter carters, from similar practices.

There having been complaints made to the magistrates of no less than three similar accidents having occurred in this town within the last three months, and of other gross misconduct of drivers; orders have been issued to the officers to give a strict look out, and to lay information against every driver who shall ride on his carriage, or be in such a situation that he cannot have the direction of it: or shall by misbehaviour hinder the free passage of his majesty's subjects; or being empty, shall neglect to turn aside for any chaise, or loaded waggon; or shall drive any chaise let for hire, or waggon or cart not having the owner's christian and surname, and place of abode printed thereon in large legible letters; or leaving his carriage in the highway; and also against the owners of such carriages, who are subject by the highway laws to a very severe penalty for the same.

At Whitehaven, on Thursday se'nnight, a potatoe stalk was plucked to which were found attached *ninety-three* potatoes. The original was raised from the crabs of red nosed kidneys in 1799. The bed from which this was taken had been planted only eight weeks.

A potatoe, measuring two feet four inches and a half round, is now in the possession of Mr. John Hope, near Hodnet, in this county, produced from the sprout of a common potatoe set last spring.

In a garden in the Mill-hill of Musselburgh, belonging to Mr. Robert Moor, vintner, there is an apple tree with three different crops of fruits this season—one fully ripe, the second as large as walnuts, and the third in blossom.

Doubts have been entertained, whether the new Corn Bill, which takes place on the 15th of November next, would operate on the average prices of the six weeks preceding that period, or of the same term preceding the 16th of February, in the twelve maritime districts, by which the duty on importation is to be regulated. We understand, that the average of the former period will regulate its operation.

Lord Sheffield, as President of the Board of Agriculture, is endeavouring, by circular letters through the several counties, to obtain a correct return of the wheat crops, that the Board, if called upon, may make an accurate report to Parliament in the ensuing sessions.

A few days ago, two gentlemen, in the neighbourhood of Lamplugh, killed seven woodcocks; and the succeeding day, one of the gentlemen killed five.

Thursday last two potatoes were dug up, in a garden belonging to Mr. Walmesley, of Penrith, which together weighed five pounds.

We have the satisfaction to say, that a fleet with cargoes of fine Dantzic wheat, amounting to between 60 and 70,000 quarters, are safely arrived in the river Thames.

A heavy rain, which fell yesterday se'nnight, has washed down a great quantity of gravel, stones, &c. from the side of Skiddaw, so as to incommode the road in some parts between Keswick and Ouse-bridge, and some loss, it is said, has been sustained by it amongst the potatoes. At Carlisle, last Tuesday morning, the rivers Caldew and

Eden overflowed so much as to deluge the Holmes and Swifts; from the former of which some cattle and sheep were lost.

There were taken from one potatoe shaw last week, at Dalhousie, the property of Mr. Gray, farmer, thirty-eight potatoes, one of which weighed two pounds and a half.

On Friday, there was cut, in the garden of Barochan, in the county of Renfrew, a Savoy stock, containing twenty-eight separate heads, of excellent quality: the outer blades were taken off before it was brought to the kitchen, notwithstanding which it weighed eight pounds Tron, and measured in circumference upwards of five feet. On the same day, there were taken up, in the same garden, eighty-five large potatoes, the produce of one red potatoe of a new kind; the largest of which weighed a pound and a half Tron, the remainder nearly a pound each; the largest potatoe being cooked and sent to table with some white potatoes of the best quality, was found to be equally dry and delicate as the others.

In the beginning of May last, John Dunbar, labourer, residing in the village of Balfron, dug a pit in his garden, about three feet square, and one foot deep, into which he threw a spadefull of fresh earth from the surface, and thereon placed a potatoe of the pink eyed kind; he then threw over it a little cow dung, and bedded it round with a quantity of green kailroots, filling up what remained of the pit with earth. When the stem appeared above the ground, he gave it another layer of dung with a little fresh earth, and continued to hoe up the earth to its root as often as it appeared necessary. On the 13th inst. he dug from the same plant forty-four potatoes, all of them above the ordinary size, sixteen of which weighed upwards of a stone Tron. and one in particular, weighs three pounds nine ounces. This potatoe is in the hands of Robert Miller, of Enrick printworks.

The Rev. Mr. James Finlayson, of Carstairs, in the county of Lanark, improved a piece of morafs in his glebe, upon which there was raised, this season, a crop of potatoe oats; a single stalk of which yielded no less than five hundred and fourteen pickles.

To the indefatigable zeal and attention of this gentleman, much ground in Lanarkshire owes its improvement; and it were to be wished, that the rest of the proprietors would follow his laudable example, as the culture of land in that quarter is too much neglected.

In the parish of Symington, in the upper ward of Clydesdale, on the farm of Annistone, belonging to Colonel Dickson of Hartree, possessed by John Galbraith, tenant, one turnip, which grew there this season, weighed twenty-nine pound Dutch weight, and measured in circumference three feet four inches; and there are numbers in the same field of nearly the same size and weight.

In a field on the estate of Strathmartin, a potatoe was lately dug up weighing two pound fourteen ounces, and in the same field, two or three more potatoes were dug up, weighing two pound eleven ounces to two pound thirteen ounces.

A certain gentleman farmer, a breeder of improved cattle, well known in the west of England, has attracted the attention of the curious in that line by the following humorous hand bill, distributed in the metropolis, viz. "*Royal dainties*, regenerated rath-ripe blood cattle, from the eastern and southern countries—in comparison with the degenerated, late ripening monsters of the north!—— To be sold, *Shakespeare* and *Pasipha*, of the best North-Devon, French, and Indian admixture; of unrivalled excellence and beauty, in all the essential requisites of small bone, high spirit, early maturity, and the most weight in the least compass; yielding milk as rich as cream, and the most savoury and finest grained beef, veal, tallow, hides, and even manure of a superior quality, in return to the earth for what they eat,

To be viewed at 2s. admittance each person by applying to John Mitchel, at the Spa, in St. George's Fields; where *Shakespear* will perform *vaccine inoculation* on as many lady fancy cows and beautiful heifers as shall be brought to be impregnated, at one guinea each, and one shilling the groom."

The last crop of wheat, we are sorry to hear, comes very light from the flail, and the price has in consequence considerably advanced, as may be seen by our corn returns; but as there is happily a large portion of the produce of 1803 still on hand, and as the weather now promises to be fine for completing the sowing on wet lands, we are in hopes it will not get much higher.

We have the authority of a most respectable and judicious farmer to say, that if wheat be dressed in the following manner, it will not be affected with brand or smut on any land or in any season:—

Begin to save the chamber-lye of the family about three months before seed time; and about ten days before seed time, run as much common lye from wood ashes as will be sufficient, with the other, for the whole of your seed; after you have gotten your quantity, let the latter be run through fresh ashes several times, as it cannot be too strong.

*The process of steeping.* Procure two common sized washing keelers and a bushel skep; put about half a bushel of seed into a keeler at a time, stir it well, and skim all the light corn or seed that rise to the surface, then empty the remainder with the liquor into the skep, which is placed over the other keeler, and while that is draining steep the skim in the first keeler, and so on alternately; if there be an opportunity, a brick floor is preferable to lay the wheat on when it is properly drained; in doing which, sprinkle one pound of salt upon one bushel of wheat, and one bushel of lime fresh from the kiln upon two combs of wheat.

It was with the greatest concern we stated the late rapid rise in the corn and flour. A general feeling pervades the body of the public, that there is nothing in the circumstances of the harvest, nor of the country, that could warrant such a great advance in the price of this chief article of human subsistence. The late crop if not abundant, was certainly not under an average one, and excellently got in; and the present war has not produced those foreign expeditions to which in former wars, an extraordinary consumption and consequent scarcity have been attributed.

Mr. Charles Young, of Rochester, proprietor of the Dover waggon, has a pig, about two months old, with *seven* distinct ears. The sow, which produced this pig, with several others, had (about one month previous to the farrowing) her right ear torn off close to her head by a large dog, and may be literally said to be, a sow with one ear.

A rapid and extraordinary rise in the prices of all kinds of grain, has taken place in every district throughout the kingdom within the last month; the cause of this rise we are apprehensive, is rather to be attributed to the scanty supply in the markets at the present season, now the farmers are busied in sowing and preparing the ground for the next year's crop, than to any material deficiency; and when threshing becomes general, the public may expect a reduction. However it may be, it is hoped the evil will only be of temporary duration; as, independent of our own supplies, a very extensive importation of grain from abroad is shortly expected. Potatoes, of which it is generally allowed there is an abundant crop, are selling in the neighbourhood of Newark, at half a crown a sack.

On the Wolds of Yorkshire, plantations continue to be formed

daily, on a conviction that the land is not less improved by them than the beauty and appearance of the country.

A pumpkin of most extraordinary size and weight, and beautifully laced like the finest cantaleupe melon, has been just cut in a garden at Bathwick, belonging to Mr. Grabbam, fruiterer, of Bath. It weighs an hundred weight; the girt round is two yards, and it measures two yards and a half the long way. The seed of this wonderful production was given to the gardener by a French cook who was here last winter, and who extolled its excellence for many culinary purposes.

PLOUGHING MATCH.

A ploughing match, for premiums offered by the Highland Society, took place on Friday last, at Shaws, of Clofeburn, under the inspection of Mr. Monteath, of Clofeburn, and Mr. Short, of Conrance, two of the members of the Society. Ten competitors, with their horses and ploughs, appeared at the hour appointed, and an immense croud of spectators came from almost all parts of the country. Three judges of great experience in ploughing were named, viz. Mr. Robson, tenant of Sandbed; Mr. Fergusson, tenant of Templand-hill; and Mr. Nivison, tenant of Townhead, who retired from the field, in order that, in their decision, the most distant idea of partiality might not be imputed to them. The ground was measured off into lots, and numbered; and the competitors drew for each lot. The competition then commenced, and, when finished, the judges were called to the ground, who, after a very narrow inspection of each lot, decided as follows:

The highest prize being 2l. 2s. and a medal, they adjudged to Robert Dinwoodie, servant to Mr. Maitland, of Eccles.

The second, being 1l. 1s. and a medal, to Thomas Hunter, servant to Mr. Anderson, of Straquhan.

The third, being 10s. 6d. and a medal, to Walter Maxwell, who had formerly been a servant to Mr. Monteath.

And, the remaining seven unsuccessful candidates, were paid 5s. each.

So well was the whole of the work performed, that though the judges had no difficulty as to the first prize, they had a good deal as to the second and third.

The eccentric frolic of the celebrated Jerusalem Whalley, in his trip to the capital of Judea, has been productive of an advantage to the agriculture of this country, never expected to have resulted from an adventure so whimsical; and which may fairly be enumerated in the list of "great events from little causes."

A small sheaf of Jerusalem wheat, brought home by the servant who accompanied Mr. Whalley to Judea, and afterwards used as a sign at an obscure alehouse in Dublin, opened by this servant, by the merest chance, attracted the notice of an experimental farmer. After so many years absence from its indigenous soil, and hanging above three, exposed to the weather, the sheaf was examined, and only three ears were found in a sound state.

The grains of those were sown in the garden of the farmer, and their produce, in the following year, evinced the most astonishing prolifickness; the culture has been carefully continued for the last four years, and there are now actually some hundreds of Irish acres planted with this invaluable grain. The mode of culture is by drill and dibble. The straw is a strong reed, not hollow, but filled with a nutritious sap, or pith, which renders it as a provender for horses, or neat cattle, equal to oats. This straw bears not, like European wheat, a single ear, but a clump of many ears; and the grain, large and full, yields an unusual quantity of the finest flour: and so much

is the seed now in demand through Ireland, that the original cultivator has actually sold it at the rate of ten guineas the stone.

The late sudden rise in the price of one of the most necessary articles of life, will no doubt be felt most severely by the labouring class of people; but as they themselves have so good an opportunity of knowing the real cause, and are daily spectators of the deficiency of the last crop, they will be more ready to bear the misfortune with fortitude and resignation until a supply can be obtained from those countries where providence has been more bountiful; and if we may credit the report, the harvest on the continent has been very plentiful. Great quantities have been bought up to be imported into England. In Egypt and Crimea they have housed as much grain as will serve the inhabitants for four.

Acorns, which are picked up by the poor in great abundance, have, like most other things, risen full 100 per cent. in price.

On Saturday last was pulled in a garden, at Seaford, two carrots that weighed eleven pounds, which is looked upon as a very extraordinary circumstance.

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#### PRICES OF COALS AT THE COAL EXCHANGE, LONDON, FOR NOVEMBER, 1804.

Nov. 5. Adair's 63s. Pontop 63s. Walker 67s. Tanfield 63s. Bedford 60s.—Nov. 7. Pontop 63s.—Nov. 16. Wall's End 63s. 6d. Bigg's 62s. Heaton 62s. Pontop 55s. 6d. Walker 61s. 9d. Tanfield 56s. Bedford 53s. Benton 59s. Eighton 56s. 6d.—Nov. 21. Wall's End 61s. Heaton 58s. 6d.—Nov. 26. Wall's End 56s. Bigg's 55s. Heaton 55s. Kenton 54s. 6d. Tanfield 52s. 6d. Pontop 52s. 6d. Benton 52s. 6d.—Nov. 28. Wall's End 60s. Bigg's 58s. Heaton 58s. 6d. Kenton 58s. Pontop 54s. Benton 56s.

AVERAGE PRICES OF CORN, by the quarter of eight  
Winchester bushels; and of OATMEAL, per boll, of 140  
pounds Avoirdupoise:

From the Returns received in the Week, ended NOVEMBER 17, 1804.

INLAND COUNTIES.

COUNTIES.	Wheat.		Rye.		Barley.		Oats.		Beans.		Peas.		Oatmeal.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Middlesex	96	3	43	0	54	6	32	6	52	4	54	2		
Surrey	112	8	54	0	55	8	33	4	48	0	54	0		
Hertford	79	2	35	6	45	4	27	4	35	3	43	0		
Bedford	81	7	49	7	42	6	26	9	42	8	46	5		
Huntingdon	79	11			44	0	22	0	40	9	46	4		
Northampton	77	4			44	8	25	6	44	0				
Rutland	89	0			45	6	25	0	47	0			57	3
Leicester	75	10	58	3	42	2	27	0	37	8	47	1	39	2
Nottingham	93	4	51	0	45	8	29	8	46	0	47	0		
Derby	86	4			41	4	31	4	46	4	52	0	33	9
Stafford	79	2			43	5	30	11	50	7	68	1	41	4
Salop	77	6	48	10	46	2	27	8			46	10	66	3
Hereford	76	9	41	6	44	11	27	2	46	6	46	10	60	2
Worcester	79	5			45	10	32	8	51	5	52	0		
Warwick	80	5			48	9	30	7	51	7	56	0	45	5
Wilts	83	4			49	6	30	2	63	4	47	0		
Berks	103	11			52	6	30	3	52	6	54	7		
Oxford	84	6			42	6	27	7	44	3	47	8		
Bucks	80	2			45	11	28	4	43	10	45	3		
Brecon	76	9	48	0	42	11	24	0			44	9	42	9
Montgomery	77	6			36	9	23	8			42	5	50	10
Radnor	67	9			38	8	25	7			46	3	78	5

Maritime Counties.

Essex	96	0	44	0	52	0	31	9	46	6	53	0		
Kent	94	0	41	0	51	10	32	8	50	4	52	0		
Suffex	98	4			47	0	35	0						
Suffolk	92	11	44	0	46	11	29	10	45	0	49	4	50	10
Cambridge	75	10	49	0	38	0	20	8	37	3				
Norfolk	87	7	48	10	44	9	22	8	37	9	47	1		
Lincoln	83	2	46	0	41	5	24	4	43	4	70	0		
York	81	5	50	11	39	5	25	1	45	10	37	1	41	5
Durham	80	2			38	9	25	6						
Northumberland	76	4	37	1	35	2	24	0			44	0	18	6
Cumberland	73	2	45	0	33	11	26	3					20	1
Westmorland	82	1	48	8	32	6	26	10	42	6			20	5
Lancafter	78	0			44	1	30	3	49	8			23	4
Chester	80	10			50	7	29	2	49	0			25	10
Flint	70	8			34	4								
Denbigh	79	10			43	9	28	10	51	3	43	2	45	10
Anglesea	56	0			32	0	22	0						
Carnarvon	71	4			36	0	21	9					44	6
Merioneth	77	10	50	0	36	8	23	4			44	0	40	3
Cardigan	70	2			31	2	19	4						
Pembroke	69	2			37	10	20	0						
Carmarthen	71	0			39	1	20	0						
Glamorgan	76	4			41	0	24	0						
Gloucester	81	7			43	10	29	6	51	1	49	11		
Somerfet	82	0			44	0	27	10	56	0				
Monmouth	81	11			47	3								
Devon	85	10			44	2	24	9						
Cornwall	76	8			37	0	25	0						
Dorset	89	11			47	3	31	4						
Hants	95	0	56	0	49	8	31	6	47	0				

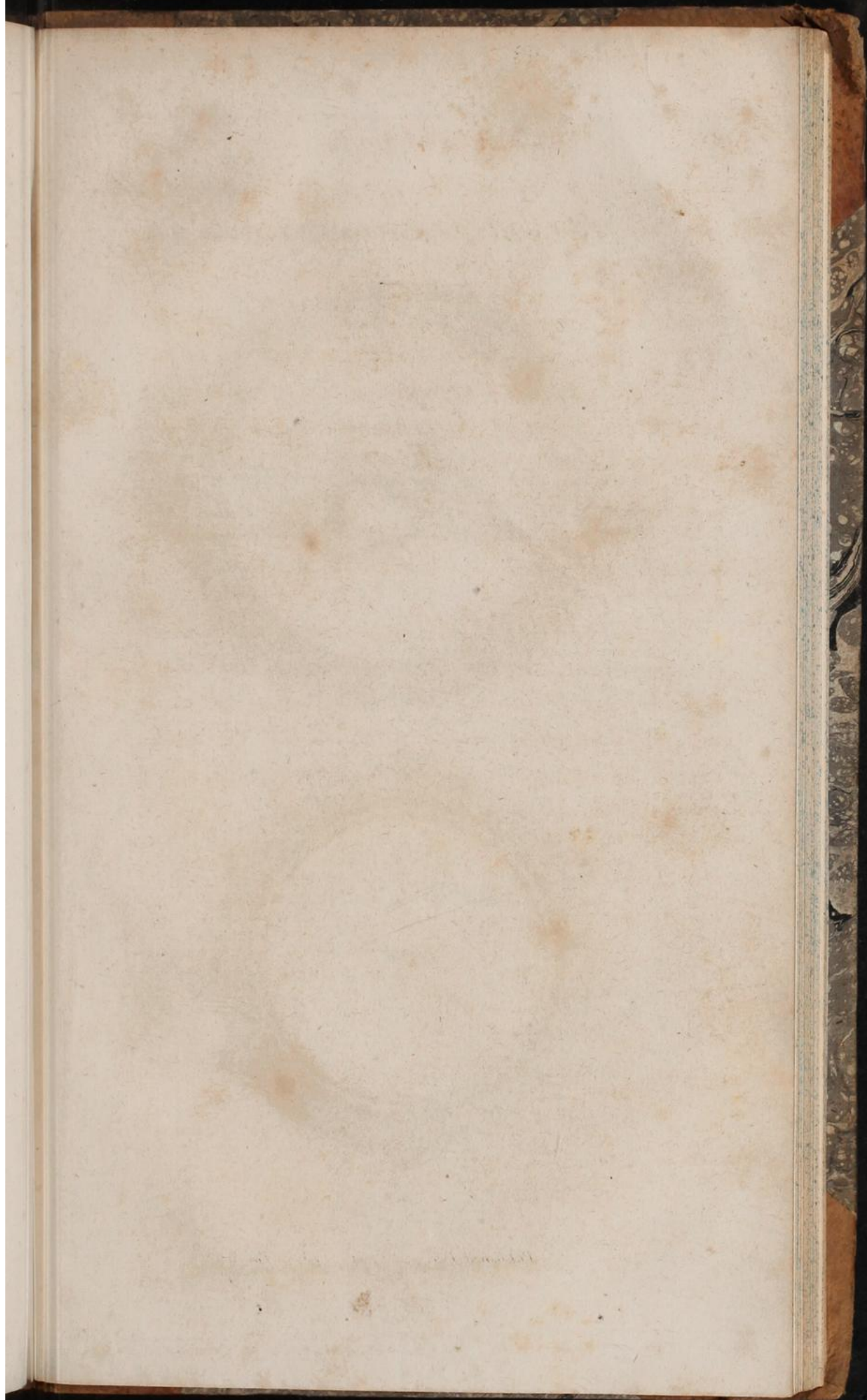
TO OUR CORRESPONDENTS.

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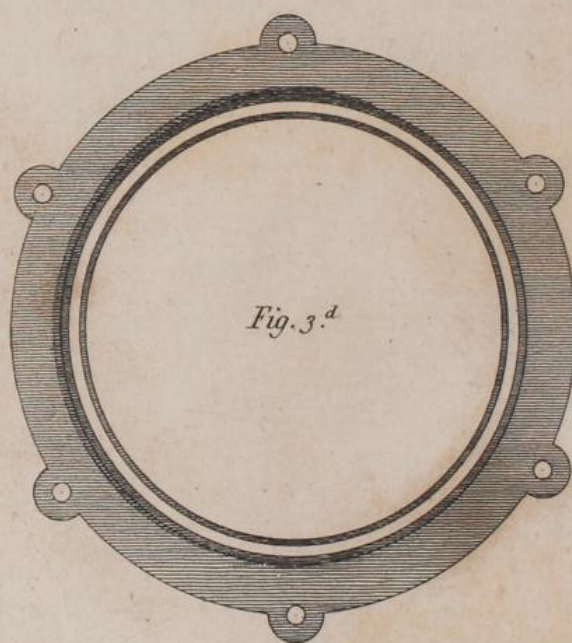
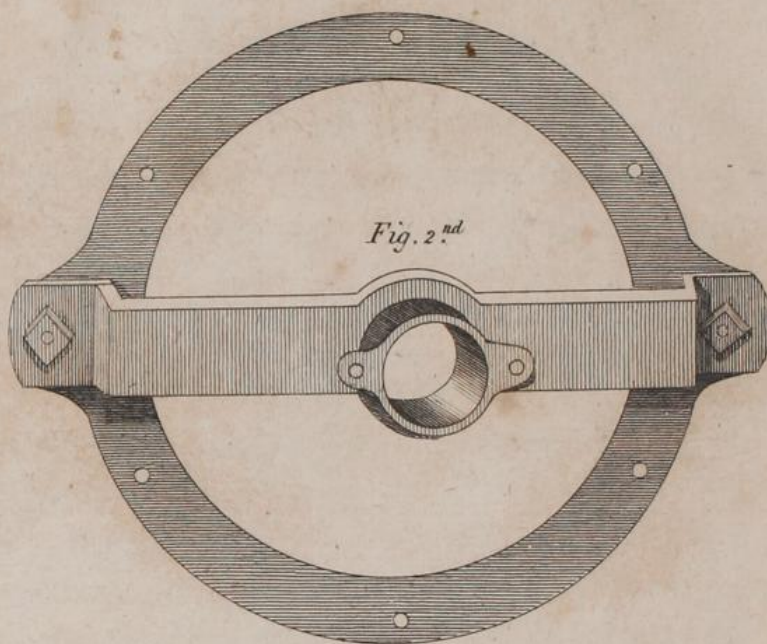
**W**E thank A. N. for the caution he gives us; we can assure him that our information is collected from the best sources to which we can procure access, in the immediate districts to which the information refers.

We must apologise to our Correspondent Clericus for postponing his communication to a future opportunity.

The observations of J. D. C. in the two specifications introduced into this and the preceding number, we have no doubt will be highly acceptable to our readers, but being obliged to defer giving the plate of the last until the appearance of the next publication, we shall also delay, for a very obvious reason, the insertion of that paper.



*Plan of Mr. Weleton's Improved Patent Mill.*



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*Section of Mr. Weleton's Improved Patent Mill.*

