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HOLKHAM,
ITS
AGRICULTURE, &c.

~~~~~  
BY EDWARD RIGBY, Esq. M.D. F.L.S. &c.

~~~~~  
Nihil agriculturâ melius.

CICERO.

The Second Edition,

WITH CORRECTIONS AND CONSIDERABLE ADDITIONS.

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THORNTON

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PREFACE.

THE following Paper was read at the Norwich Philosophical Society in December, 1816. It was written from notes taken at Holkham, and, obviously, at a time when no remark in it could, of possibility, have reference to a contested Election ; nor was it even intended for publication.

The late contest for the county has, however, brought it forth : the hostility to Mr. Coke, in the course of the election, marked, as it was, with unusual asperity, was chiefly directed against him, as a great landed proprietor, and a distinguished agriculturist ; for the imputed injury done the country by the change he has effected in the system of farming, which was charged with producing various ill consequences, with depriving the poor of employment, and rendering corn dear.

This clamour, indeed, against Mr. Coke, was principally vociferated by the poor and ignorant, excited by inflammatory hand bills, addressed to their worst passions.

It would avail little, if practicable, to point out whence such an outcry originated ; but it is notorious, that, for some time past, the public opinion has been much abused on the subject of Mr. Coke's system ; and that even persons, who cannot be suspected of unworthy motives, have contributed to keep up the prejudice.

On a principle of justice, then, not only to Mr. Coke, but to the public, still more interested than

himself in the result of the system, it cannot be improper to endeavour to set opinion right on the subject, and this can obviously be, in no way, so effectually done, as by exhibiting the system as it actually exists in those places, where it has been most completely put in practice.

This I would hope, may, in some degree, be accomplished by the following sketch, imperfect, as it must be acknowledged to be.

The truth of the facts recorded will not be doubted, and the remarks which accompany them, I would persuade myself, are such as must arise in the mind of every unprejudiced person who contemplates them.

June 24, 1817.

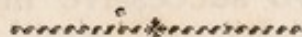
In the present Edition some errors are corrected, and some new, and I trust, not uninteresting facts are given ; but the principal addition respects the extraordinary charges, which, with unabated hostility, continue to be directed against Mr. Coke and his system, and which, I lament to repeat, are not confined to the ignorant and the prejudiced of the lower classes.

They are, however, of easy refutation ; a very simple statement will, probably, satisfy the ingenuous reader, and the most obdurate opposer of Mr. Coke will, I apprehend, be little able to resist positive facts.

E. R.

Norwich, November 22, 1817.

HOLKHAM, &c.



At the latter end of August, 1816, I was gratified by a visit to Holkham. Every one who visits Mr. Coke is struck with the beauty of the Holkham scenery, the magnificence of his mansion, his princely establishment, and his liberal hospitality; and I could enlarge with much pleasure on all these: they impressed me forcibly and most gratefully; but they probably would not be considered as proper subjects for the Society's attention.

My observations will, therefore, be principally directed to the extraordinary improvement Mr. Coke has effected in the value of his extensive estate, by a system of agriculture, almost peculiar to himself; by an encouraging liberality to his tenants, in a system of leasing his farms, equally peculiar to himself; and by his judicious and extensive system of planting, which, I believe, already exceeds any thing of the kind in the county, and is still progressively increasing.

Though in all these Mr. Coke has been singularly successful, he has yet failed to meet general

approbation, and he has still to contend with long established prejudice. In giving an opinion on these subjects, I shall probably, also, meet some opposition of sentiment; but this, I trust, will lead only to discussion, which may not be uninstruc-
tive.

I had the advantage of riding with Mr. Coke several hours, two successive mornings, over the Holkham farm in his own occupation, and over another at Warham, occupied by an intelligent tenant; and, as he allowed me to be full of questions, and seemed to have a ready pleasure in answering them, I had ample means of gratification and information.

My first impression was that of surprise and admiration at the exuberance of the crops, at the seeming richness of the soil, and at its unexampled freedom from weeds. The first crops which attracted our notice were some extensive ones, both of wheat and barley. I had never before seen such. Mr. Coke estimated the wheat from ten to twelve coombs per acre, and said nearly twenty coombs per acre of barley, had grown upon it, which is at least double the average crop in the county of Norfolk, and nearly treble that of many counties in the kingdom;* and yet so sterile was

* It has been doubted whether so large a crop of barley could have been produced upon such land: but the fact is well ascertained; a statute acre of it was accurately measured, when the barley was cut and in a state to be carried; there were four waggon loads and a half of it. It was taken

this part of the estate considered, when he came into possession of it, that a large tract of it had been lett, tithe free, on a long lease, at three shillings per acre; and Mr. Coke offered another lease, of twenty-one years, at five shillings per acre, but the tenant had not courage to take it, and Mr. Coke procured him a farm under another landlord. At that time wheat was not cultivated in this district: in the whole tract, between Holkham and Lynn, not an ear was to be seen, nor was it believed that one would grow. The system of farming was wretched, and the produce of the soil of little value. What a change has been effected by capital, skill, and industry!

Notwithstanding the late summer's rain had been, on other farms, so productive of weeds, and had rendered crops, in general, more than usually foul, I cannot help repeating that there was scarcely a weed to be seen here. In several places the harvest had commenced, and the ground which was exposed on cutting the wheat, was as clean as a barn floor. The day being fine, it was pleasing to see the reapers at work—they were divided into parties, who seemed to have certain quantities allotted to them to cut; among the rest I observed, with some interest, a man and two girls, about twelve or fourteen years of age, who had also a

to the barn and immediately threshed by a machine, and the produce was nineteen coombs two bushels, of merchants' barley, and one bushel of light barley.

certain share ; he proved to be a widower, and these were his children.

On the second morning Mr. Coke accompanied me to an extensive farm of his at Warham, a neighbouring parish, in the occupation of Mr. Blomfield, cultivated on the Holkham system, and exhibiting the same weedless surface, and the same rich produce as Mr. Coke's. On one piece of seventy acres, very near the sea, I think the wheat exceeded Mr. Coke's in luxuriance and quantity ; we rode under the hedge of this large piece, and found every part of it equally good ; but I observed one single plant of Charlock, *Sinapis arvensis*. I pointed it out to a young German, who resided with Mr. Blomfield, to learn the Holkham system ; he rode hastily to the spot, and indignantly plucked it up.

Mr. Blomfield has the merit of having made a discovery, and adopted a practice which must be of singular benefit to Norfolk. This county is deficient in old pasture, and the attempt to *lay down* land, as it is called, for a permanence, so as to procure this kind of valuable pasture, has hitherto been attended with great expence, and has not always been successful. He effects it by what he has, rather ludicrously, called *inoculating the land*, and, literally, in one summer, produces a rich, and strange as it may sound, an old pasture.

Without describing the process in detail, it will give a sufficient idea of it, to say that the immediate

operation on the land consists in placing pieces of grass, turf, or flag, of about three inches and a half square, at certain distances, leaving an interval uncovered equal to that which is covered by the pieces of flag: these are well rammed down, and in doing this, Mr. Blomfield jocularly said, it was inoculating the land, which gave it its name: this process takes place in a winter month, and in the spring some grass seeds are sown on the uncovered spots; but before the end of the summer, the pieces of flag extend themselves, and, uniting, the whole not only appears to be, but really is the same as old pasture. I saw thirty acres near Mr. Blomfield's house, a most ordinary soil, light and gravelly, and not worth five shillings an acre, under this process, become an excellent pasture, worth at least thirty shillings an acre. Mr. Coke was preparing a large piece, within view of the house at Holkham, to be thus improved.*

* I have just been favored by Mr. Blaikie with one of the first printed copies of his *Observations on the Conversion of Arable Land into Pasture, and on other rural Subjects*, in which he has given a detailed account of the process of *inoculating land*, or, as he suggests its being, in future, called *transplanting Turf*; with ample instructions to those who may wish to adopt the practice.

It contains, also, much useful and practical information on other important subjects in agriculture, written in a well adapted stile of plain perspicuity.

I observe, also, that it is neatly printed by Dawson, of Burnham.

I asked Mr. Blomfield how the thought occurred to him ; he said from observing pieces of flag laid on the hedge row banks, and beaten firmly on with a spade, when these banks are dressed, and which, he said, soon extended themselves and covered the banks, if free from weeds, with a similar flag.

Mr. Coke's system of husbandry is the drill system, which he adopted at a very early period, and his extraordinary success in it is owing to the progressive improvement he has effected in the process, so as effectually to answer the purpose of loosening the soil, at different seasons, and of completely extirpating weeds.

The advantage of deep and repeated ploughings and harrowings, to clean, loosen and pulverize the soil, preparatory to its receiving the different seeds, every one knows, and, to a certain degree, this is practised on every farm ; but the importance of stirring the soil, destroying weeds, and earthing up the young plants in the summer months, was not ascertained until effected in the drill system by horse-hoeing, &c. and Mr. Coke's great improvement in it, derived from his long experience, consists in his having gradually drilled at wider distances.

When the drilling of wheat was first practised, the lines were four and six inches distant. Mr. Coke now drills it at nine inches distance, which admits ample room for horse-hoeing, in the spring and early summer months, obviously,

much more effectual in loosening the soil, destroying weeds, and *moulding up the plants*, than hand-hoeing, particularly as usually practised by women and girls; who, in most instances, by a partial stirring of the earth, and an incomplete destruction of weeds, promote the more vigorous growth of those which remain.

I should, however, observe, that I have since learned from Mr. Blaikie, that he does not think it adviseable to earth up white-straw crops, and therefore, in horse-hoeing wheat, he does not recommend *moulding up the plants*.

The true estimate of every process in agriculture, must, indeed, be obtained from experience; but the drawing earth round the stems would seem to promote their tillering, or the production of new stems by suckers or *pullulations*;* and this was one of the great advantages which Tull, who has, unquestionably, the merit of having been the first to suggest the drill system, expected from horse-hoeing wheat. And it is worthy of remark to what an extent the stems may be multiplied under favorable circumstances, an indispensable one being the supplying the lower part of the plant with fresh earth to work in.

The most perfect way in which this can be effected is, obviously, by transplanting. Dr. Dar-

* Pullulat ab Radice aliis densissima Sylva.

VIRGIL. GEORG.

win, in his *Phytologia*, gives a drawing of a plant of wheat taken from a corn field in the spring, which then consisted of two stems ; it was replanted in his garden, and purposely buried so deep as to cover the two or three first joints of both the stems beneath the soil. On taking up the plant on the 24th of September, it had assumed the form delineated, and consisted of six stems. Page 278. And a much more extraordinary fact is recorded in the *Philosophical Transactions*, vol. lviii. p. 203. Mr. Charles Miller, of Cambridge, sowed some wheat on the 2d of June, 1766, and on the 8th of August one plant was taken up, separated into eighteen parts,* and replanted ; these plants were again taken up, and divided between the middle of September and the middle of October, and again planted separately to stand the winter ; and this second division produced sixty-seven plants ; they were again taken up and divided between the middle of March and the middle of April, and produced five hundred plants. The number of ears

* Eighteen stems from a single grain of wheat are so much more than, in the first instance, are produced under common circumstances, that it is probable extraordinary means were used to multiply them, and these, it may be supposed, were the repeatedly surrounding the original stems with fresh loose earth ; and it is most likely the experiment was made in a garden, the rich mould of which was well adapted to it. It may, also, be observed, that this occurred at a season most favorable to quick and vigorous vegetation, and which might have been still more promoted by occasional watering.

thus produced from one grain of wheat was 21,109, which measured three pecks and three quarters of corn, weighed forty-seven pounds, seven ounces, and were estimated at 576,840 grains.

Another way of effecting a multiplication of the stems, is by drawing fresh earth round the lower part of the plant, without removing it, and which, though inferior in degree, is evidently similar, in principle, to transplanting it, for in both cases Dr. Darwin explains the process to be effected by accumulating earth above the first few joints of the stems, from whence new buds spring, generated and nourished by the caudex of the leaf, which surrounds the joint, as the original stem was generated and nourished from the grain itself, and which, like the seed, withers away, when sufficient roots have been formed for the future support of the plant.

Sir Humphry Davy, also, entertains a similar opinion on this subject, and considers the tillering of corn, or the multiplication of stems, as favored by the drill husbandry,—*for, he says, loose earth is thrown, by hoeing, round the stalks.* Elements of Agricultural Chemistry. Page 204.

In drilling turnips Mr. Coke has gradually extended his lines, on ridges, in what is called the Northumberland method, from twelve to fifteen, to eighteen, and even to twenty-seven inches. These wide drills allow the horse-hoe of the largest dimensions, and of various forms, adapted to the different pur-

poses of turning up the soil and earthing up the plants, to pass most readily ; as a proof of this, I observed a boy hoeing with the horse briskly trotting, by which means he could readily hoe twelve acres a day. Mr. Coke's present steward, Mr. Blaikie, is a good mechanic, and has invented some implements, which are well adapted, in the best way, to effect these purposes.

This was the first year, 1816, in which the turnips were drilled so widely, and Mr. Coke expected that the twenty-seven inch drilled Swedish turnips would exceed, in weight, those of eighteen inches by ten tons an acre. I saw a large piece of these, about sixty acres, in which half were at eighteen inches distance, and half at twenty-seven inches ; the latter were evidently the largest, in the most vigorous growth, and certainly, promised to meet Mr. Coke's expectations. Drilled turnips, however, obviously, require cross-hoeing, which must necessarily be done by hand, but as this is merely to destroy the supernumerary plants, it is easily effected by women and young persons.

The Swedish turnips form his principal and most valuable crop, and are sown, upon the best soils, from the middle of May to the middle of June ; but Mr. Coke continues to cultivate, on his lightest soils, the common and the Scotch yellow turnip, both which are sown from the middle of June to the middle of July.

In 1814, Mr. Blaikie published some Observa-

tions on preserving Swedish turnips, by *placing* them, as he terms it, and this has been successfully adopted at Holkham.

They are taken up about the middle of November, or as soon as they have attained their full growth; the tails or bulb roots only are cut off, and they are *placed* in an orchard, or on old turf land, close to and touching each other, with the tops uppermost, and only one turnip deep. An acre of good turnips from the field, will occupy much less space when *placed* than could be imagined. In very severe weather a slight covering of litter is thrown over them. In this way they will keep very well, and be sound and firm in June. Those taken up in the spring, when the bulb or fibrous roots begin to shoot, and which, if suffered to remain on the ground, would greatly deteriorate the soil, may be *placed* in the same way; and at this time, if under the shade of trees, the better.

The carrying off the Swedish turnips, and *placing* them elsewhere for consumption, is, however, principally recommended on strong soils and retentive sub-soils, where they cannot be eaten on the ground, without injury. But upon light soils and open sub-soils, the turnips should be *placed* where they grow, and put into beds of a proper width for a common hurdle to cover them; a furrow of earth should be ploughed against the outside rows to protect them from the severity of the

weather, and from the depredations of game. The expence of *placing* a medium crop of Swedish turnips with tops and tails on, is about four shillings and sixpence per acre, and five shillings per acre, when the tails are cut from the bulbs.

When turnips are eaten where they are *placed*, the ground is hurdled off and folded in the usual way; they are chopped in pieces, and thrown about for full-mouthed sheep; but when given to young and old sheep, they are cut into slices by a machine, and given to the sheep in troughs, which are frequently shifted. The refuse is thrown about, and the bottoms of the beds, where the turnips were *placed*, are shovelled and spread about; particular attention being paid to shifting the folds, so that the land is regularly manured.

It is not generally known that the texture of the larger Swedish turnips is firmer, and the specific gravity, consequently, greater than in the smaller ones, the reverse being the case in the common turnip. The rind, the least nutritive part, is also, in the same proportion, thinner; but were it equally thick, there would still be, proportionately, less of it, the surface of a large sphere bearing, obviously, a less proportion to the within contents, than the surface of a smaller sphere. These may appear trifling circumstances, but they not only shew the intrinsic superiority of the Swedish turnip, but the manifest advantage of endeavoring, by a superior cultivation, to grow large ones, thereby improving

their quality as well as increasing their weight per acre ; and this, it is evident, can, in no way, be so completely effected as by the improved drill system, and which was never so convincingly apparent, as in the most magnificent crops of the present year, 1817, both at Holkham, and on Lord Albemarle's farm, at Quiddenham, in this county.

Mr. Coke is liberal in manuring for turnips ; he allows not less than fourteen loads of manure per acre, the common quantity not often exceeding ten loads ; he is enabled to do this by manuring his wheat with oil cake, which he drills in with the seed, one ton being sufficient for six acres ;* and this not only saves time, labor of horses, &c. as well as manure, but certainly answers well, as his wheat-crops sufficiently prove.

Mr. Coke mixes the farm-yard dung in compost heaps, by which means he not only increases the quantity, but he seems to improve the quality of the manure, so much so that he now grows better crops of turnips upon the Northumberland ridge method, with compost manure, and without oil cake, than he has, formerly, done when his turnips were sown upon

* In the last season Mr. Coke adopted a different method of applying the oil cake, which was first practised by Mr. Hart, his tenant, at Billingsford, and which, he thinks, answered better. He drilled only half the quantity with the wheat, and the other half was drilled between the rows, in the spring, at a time when the plants were most likely to be benefited by the additional stimulus.

the flat, either drilled or broad cast, with all his farm-yard dung in the common method, and a large proportion of oil cake added to it; and he has the advantage of reserving the oil cake for the wheat crop, to which he considers it more adapted than to turnips.*

It must, however, be observed, that, in drilling wheat, he allows much more than the usual quantity of seed; ten pecks an acre are the utmost which most farmers drill or dibble, and even six pecks have sometimes been thought sufficient; but Mr. Coke allows four bushels an acre in October, and even five bushels in November.† He is an

* Mr. Blaikie has, also, lately published a useful pamphlet on the subject of Farm-yard Manure, &c. in which he gives a detailed account of the most profitable way of forming dung heaps, &c. and he has added some judicious directions for making and repairing public roads: the whole well worthy the attention of the practical and economical farmer, and of parochial surveyors of roads.

† In depositing so large a quantity of seed, and burying it so much deeper than when sown broad cast, it certainly does not seem so requisite to earth up the plants, as probably there will ever be a sufficient number of stems derived, in the first instance, from the seeds themselves; but then a question arises, and which may merit consideration, whether there would not, eventually, be an equal number to produce ears, were a less quantity of seed sown, and the plants afterwards judiciously moulded up. It would seem, indeed, to come to the same thing, and if so, in the latter case there would be a manifest, and on a large scale, a very great saving of seed.

It cannot be expected that nature should conform her pro-

advocate for early sowing ; and, as the drill puts in the seed quickly, and, as before observed, no time is lost in carting on manure, I should think he has seldom much to sow in November. He says he has always the best crops when the wheat, by this means, is very thick in the rows, and he never thinks it thick enough if he can easily pass his finger through the stems, near the ground.

He cuts his wheat very early, even when the ear and stem are greenish, and the grain not hard. He says the wheat, thus early reaped, is always his best sample, and he gets two shillings a quarter for it more than for wheat cut in a more mature state. He, perhaps, loses something in the measure, the skin being thinner, and the grain, probably, not quite so bulky ; but, if this be true, it is fully compensated in his suffering no loss by shedding on the ground, which, when the ear is ripe and the weather windy, is often not inconsiderable.

He is equally early in cutting oats and peas : I observed to him, that in both these, the seeds were not all ripe ; his answer was, that he should lose

*
cesses to calculations on paper, but if the production of buds and stems from the joints of wheat plants, when duly surrounded with earth, depends upon an established and unvarying law of nature, it must be the same thing whether twelve stems are produced, directly, from six grains of wheat, or six stems are produced from three grains, and six more are subsequently produced by surrounding the lower joints with earth.

A very few experiments, conducted as they usually are at Holkham, would decide the question.

more by the falling of the ripe seed at the bottoms, than he should gain by waiting until the rest were ripe ; and that the straw in this state, retaining some immature seeds, was of more value to his stock, in the yards, than if cut later.

To prove the utility of reaping wheat early, Mr. Coke had hung up, in his own room, a few handfuls of wheat which was greenish and immature ; in a few days he shewed us the seed which had ripened in the capsule. Mr. George Hibbert, of Clapham, a gentleman well skilled and much experienced in the cultivation of plants, was with us, and he has since, in a letter, observed to me that this is a common natural process, more especially when the capsules are of a succulent nature, and which all gardeners very well know ; and he mentioned a remarkable instance which occurred to him, respecting a plant, whose seed had no considerable envelopement. James Niven was employed by him to collect the seeds of plants in Southern Africa : he sent a specimen of a beautiful *Erica*, lamenting, in his letter, that he had never been able to find one of that species advanced into fruit ; but out of that very specimen, which he seems to have gathered in the full vigor of flowering, Mr. Hibbert actually obtained ripe seeds, and produced plants here by sowing them. When Niven returned, he shewed him the specimen, and he said a very considerable progress towards fructification, must have been made during the transit from the Cape of

Good Hope, hither, by the rising of the sap within the specimen.

Mr. Coke's course of husbandry, that is the succession of his crops, varies but little from that which is general through the county of Norfolk. It is called the four or five course;—first year, turnips—second, barley, laid down with clover or other grass seeds—third, grass to cut or feed—fourth, wheat. He has, within a few years, found it profitable to lay down a certain quantity of land with cock's-foot grass, *Dactylis glomerata*, and this lies two years, making the course, on this land, five years.

This grass does not stand for hay, but is excellent sheep feed: the summer of 1816 was indeed favorable for all grass land, but I never saw a more verdant carpet than it exhibited; when fed close, it tillers very much, as we call it, spreads and branches on the ground with multiplied stems, and, in the season most favorable to vegetation, it will grow more than an inch in a few days. Sheep are very fond of it, and Mr. Coke says he can pasture more upon it than on any other layer of artificial grass.

The seeds of this grass, which is indigenous, are gathered in the woods and lanes by women and children, who cut the tops off with scissars, about six inches long, an inch and half below the lower spur; they are paid threepence a bushel for it, measured as hay; one bushel of seed is obtained

from seven bushels of it in the state it is thus gathered.

The cock's foot seed has but just found its way into the shops, and I observed to Mr. Coke that this appeared to be a precarious way of collecting it: he had not been inattentive to this circumstance, and said that he intended sowing lines of it on his hedge banks, which would insure a permanent crop; it would be more accessible and more easily gathered.

Though not cultivated as other artificial grasses, in the regular course of husbandry, Saint Foin has been found, at Holkham, a valuable source of hay, and of autumnal pasturage.

It was first cultivated, in this district, in the year 1774, upon the Brent-Hill Farm, by Mr. Beck, the then occupier. Mr. Beck's example was followed by Mr. Coke, and he has cultivated saint foin, in Holkham park, about forty years; and some of the huge stacks of hay which I saw there were composed of it.

It is most adapted to thin soils, incumbent on chalk. The seed is generally sown, *in the pod*, at the rate of five bushels per acre, with the barley, after a turnip crop: nine pounds of trefoil, per acre, are sown at the same time. The saint foin being in pod, attention is required to bury the seed properly. The trefoil produces a crop to mow in the following year, and dies away in the succeeding years. The saint foin is not in full perfection

untill the third and fourth years. It continues good untill the ninth year, after which it becomes weaker, and is ploughed up for the land to go through a regular course of husbandry. The saint foin is seldom manured or top-dressed: it produces a ton and half of hay per acre, annually, while in perfection. It is never spring-fed, but is depastured by all sorts of cattle, to consume the after-math in autumn.

Mr. Coke is ever ready to try the cultivation of any new article. The introduction of the Swedish turnip into general cultivation is much owing to him, as, I believe, he was the first who grew it on a scale equal to the wants of a farm. I was pleased to see a crop of mangel wurzel in a good state: * and he told me he had procured some Heligoland beans, a new and promising article, which is said to yield sixty bushels or fifteen coombs per acre,

* Having, in another publication, advocated the cultivation of mangel wurzel, I am induced to mention that at the last meeting of the Horticultural Society, October 7, 1817, some specimens of this root were shewn, producing sixty tons weight per acre; and the account adds, that Mr. Jenkyns, last year, produced for government, from nine acres in the Regent's Park, a crop of this plant, that cleared a profit, after all expences were paid, of 600*l*.

Morning Chronicle, Oct. 9, 1817.

I have understood this root is much in request among the keepers of cows, in London, the leaves of which, in the beginning of November, and the roots during the rest of the winter, being profitable articles of nourishment to them.

and he proposed dibbling them on the transplanted land ; * but I saw no cabbages, no succory, no burnet, no parsneps.

I had little opportunity of noticing Mr. Coke's flocks, but they are highly estimated, and he is distinguished for his skill and attention in this branch of rural economy.

His sheep are all Southdowns, but he told me he had not the merit of selecting them himself. Some years ago he was visited by some gentlemen from the South of England, who found much fault with the Norfolks, which then composed his flocks, and told him that the sheep in their country, the Sussex Southdowns, were much more profitable and better adapted to his pastures :—he bought five hundred, on their recommendation, and finding they fully answered his purpose, he got rid of his Norfolks, and has had none since but the Southdowns.

Mr. Cline had just visited him, and Mr. Coke was much gratified on finding this preference con-

* In Mr. Blaikie's pamphlet on the Conversion of Arable Land into Pasture, before adverted to, he gives the result of two trials of dibbling the Heligoland beans on this land ; the one was upon land which had undergone a compleat summer fallow, previous to its being transplanted ; and the other was land from which Swedish turnips were taken up in November, but they seem not to have answered in either case ; the failure is, however, attributed to the beans having been put into the ground too late. In another instance, Poland oats were sown and produced twelve coombs per acre. It remains to be seen in which the transplanted turf has succeeded best.

firmed in his excellent paper on the forms and constitutions of animals, in which he considers the characteristic mark of health and vigour, in an animal, to be the expanded chest, the thorax which has ample room for the free play of the heart and lungs. In the Norfolk sheep the sternum terminates almost in a line or edge, the ribs contracting too much as they approach it; while the chest of the Southdowns is more rounded and wider, terminating with a less angle at the sternum.

He remarked, on shewing me his admirable dairy of North Devon cows, the same characteristic superiority of form over the Norfolk cows. He particularly pointed out the flat line the ribs take in spreading from the spine, in the upper part of the chest.

When Mr. Coke came to his estate at Holkham, the rental was two thousand, two hundred pounds—this was forty-one years ago. The produce of his woods and plantations amounts now to a larger sum; for he has had the spirit and judgment to plant fifteen hundred acres: the greater part of which have become magnificent woods, which have not only, by their picturesque beauty, unspeakably improved the landscape; by their protection in checking the cold rude winds, so prevalent on this coast, materially softened the temperature; and, by the annual fall of their leaves, even contributed something to the fertilization of the soil, but, at this time, the annual fall of timber,

poles, and underwood, from them, averages about two thousand seven hundred pounds. The timber and poles are applicable to most building purposes; some of them are used in the buildings, which he is constantly carrying on, upon an extensive scale; his houses, cottages, barns, stables, and other farming buildings being all in a superior stile of architecture; and the remainder is sold in the neighbourhood.

I saw a handsome house, built in the summer of 1815, and now occupied by his head gardener: the doors, windows, floors, stairs, as well as the roof, joists, spars, &c. were all of Scotch, larch, and spruce fir, of Holkham growth; and his timber-yard, from the same source, displayed no mean quantity of rough timber, balks, planks, &c.

In the plantations, several of which I rode through, the oaks and Spanish chesnuts have already attained a considerable size, and are in a state of vigorous growth; some of the oaks, particularly those near the house, being the largest I ever saw, of the same age; these in time will, obviously, become the most valuable timber on the estate; in time they may even supply our future wooden walls, and, under a change of form, navigate the very sea which washes the shores on which they are now growing.*

Firs, of the different species, the Scotch, larch,

* A similar remark was made by Evelyn in his *Sylva*, respecting the plantations of his day, which time has realized.

spruce, and silver, have attained a sufficient growth to be applied to the above-mentioned useful purposes ; and like the oaks, for many years to come, will have an increasing value.

There are also other trees, which though of a subordinate character, Mr. Coke turns to a good account ; the *Salix cœrulea*, or the French willow, at six years' growth, can be advantageously riven into laths, which are very tough, and answer the purpose quite as well as those made of foreign deal : the *Populus monilifera*, the Canada poplar, also grows very luxuriantly, and I have, myself, experienced its wood to be very useful. The wild cherry is also cultivated extensively, and its timber is valuable for all building purposes, when of forty or fifty years growth. I observed another poplar, the black Italian, said to be the most profitable for planting of all poplars, judiciously planted as a skreen, round some barns and farming buildings.

Mr. Coke's system of letting his estates is not less excellent than his farming system : a long lease and a moderate rent cannot fail to be highly advantageous both to landlord and tenant ; to the occupier it affords every encouragement to invest capital, and every motive for the skilful cultivation of his farm ; and to the landlord, eventual permanent profit in the improved value of his estate. The following have been the important results : Mr. Coke's tenants are enriched, and his property

has increased in value to an almost incredible degree. He gives twenty-one years' leases, and he has already seen the termination of such leases on most of his farms, and, though he continues the same encouraging system of long lease and moderate rent, his present relatively moderate rents, relatively as to the improved state of his farms, have admitted the total increase of his Norfolk rents to amount to the enormous sum of twenty thousand pounds; an increase in the value of landed property, a creation of wealth, probably, unexampled, except in the vicinity of large towns, or in populous manufacturing districts.

One of his admirably cultivated farms, which I went over, and on which I before remarked such luxuriant and valuable crops, is let on a twenty-one years' lease, at seventeen shillings per acre, and seven years of this lease are unexpired. At the expiration of the term, can it be doubted, that, for land in such a high state of cultivation, so enriched by manure, so free from weeds, with so many acres of excellent pasture produced by transplanted turf, the fences so well arranged and in such good order, with a superior farm-house, and farming premises, so well adapted;—can it, I say, be doubted, that thirty shillings an acre would still be a moderate rent?

On the renewal of many of his leases, he has given the tenants the bonus of a capital house: these afford not only every possible accommodation to

his tenants' families, but are striking ornaments to the country. He has, however, been censured for this, and I own, I formerly thought it extraordinary that he should build gentlemen's houses for farmers; but I think otherwise now; they are additional proofs of his genuine liberality to his tenants.

Most of these were built at the termination of his long leases, the renewal of which, at such an enormous increase of total rent, supplied him with the most ample means of doing it. At the end of a twenty-one years' lease, if a tenant have so improved a farm, as to admit such an increase of rent, it is probable he must have enriched himself, and the very circumstance of his acquired wealth advancing him in the scale of society, and admitting a superior domestic establishment, the generosity of his landlord could not, surely, be applied in a way more gratifying to him.

But, independent of this circumstance, which may, perhaps, be considered as too personal to an individual tenant, and as possibly not likely to be equally applicable to every succeeding one, the very improvement the land has undergone, its increased value as an estate, and the different and extended system on which it is cultivated, all claim and require a superior house, and larger, and more numerous appended farming buildings.

Irrigation is one of the superior improvements in agriculture, which Mr. Coke has advocated and adopted; but this can, obviously, be only effected

in peculiar situations, and can only be undertaken by persons of considerable capital.

The situation of Holkham does not admit of irrigating to any extent; but even here Mr. Coke exhibits a water meadow, where it could be little expected: it is near the house at Longlands, his principal farm, and rather on high ground; the source is a large pond, originally formed for the common purposes of a farm-yard. There may be a spring which feeds it in some degree, but its principal supply, I believe, is from the heavens. When the pond is full, the water is well directed to an adjoining meadow, whose level is a little below it. To a certain degree, it has its use, but the supply of water is inadequate to an extensive and long continued irrigation.

The best specimen of complete irrigation, on any of his estates, is at Lexham, which I have seen, when visiting his respectable tenant there, Mr. Beck. A small stream, tolerably well supplied, runs through a little valley of ordinary meadow land; a large reservoir of several acres has been formed by an embankment, and raised so much above the contiguous grounds as to admit of many streams, in different directions, being conveyed over an extensive surface of land, to which they impart a wonderfully fertilizing principle, and by anticipating the common period of the growth of grass in the spring, and by continuing it luxuriantly during the whole season of vegetating temperature, the

supply of grass is much more early, and infinitely more abundant, than could be obtained on the land of such a farm, under common circumstances. The grass which first shews itself in the spring, in the watered meadows, is the *Festuca fluitans*, the long and broadish leaves of which are known to float on the surface of water, in ditches, &c. The cattle are very fond of this grass, and on being first turned into these meadows, run with eagerness to get it.

These water meadows were well designed and executed under the direction of Mr. Smith, the engineer, and celebrated geologist; but at a very considerable expence. Mr. Coke, who has given a long lease of the farm to Mr. Beck, is said to have been at half of the expence; and, in addition to it, he has built him an excellent house, on a rising ground, and at a proper distance from the water, which is here as much a feature of decoration and beauty, as in any gentleman's ground; and the whole would form a picturesque scene, were more trees growing on the opposite side of the water.

It will not, I apprehend, be questioned that Mr. Coke has, thus, been very instrumental in effecting a considerable change in the system of agriculture. Doubts, however, have been expressed as to its real utility, and principally because it has led to what, with much censure, has been called the aggregation of farms.

It is, indeed, well known, that many of Mr. Coke's are large farms; *that* in his own occupation, is said not to be less than two thousand acres; and some of his tenants occupy not less than twelve hundred acres. But this, like all other questions in political economy, must be determined by experience; and the experiment has, now, been tried long enough to admit a fair reference to it.

I would first ask, from what period are the improvements which are acknowledged to have taken place in agriculture to be dated?—unquestionably, from the time when the land began to be cultivated by individuals on an extensive scale;—and what is the proof of improvement? increased productiveness;—and how has this been effected? obviously, by the skilful application of capital.

In the neighbourhood of Holkham, and in a great part of the West of Norfolk, it may, moreover, be observed, that the land is light and naturally sterile, not admitting of profitable culture on a small scale and with little capital; many extensive tracts of this kind were, under the old system, as unproductive as Holkham; and the country is equally indebted to the new system for the ample supply of corn they now produce.

But to invest a considerable capital in any undertaking, with security and a prospect of profit, requires no small share of intellectual discernment: the farmer, therefore, who invests such a capital in land, requires it as well as the merchant and the

manufacturer. Such a farmer, then, ought to be a well educated man ; and this, and his command of capital, distinguish him from the little farmer ; distinguish his large farm from the small farm, as much by the superiority of its cultivation, as by its greater extent of surface.

The small farm and uneducated farmer, (for, with exceptions, they go together,) have little influence on national prosperity, they seldom admit of agricultural experiment, they are little calculated for improvement. The small farmer, I repeat it, with exceptions and with respectable exceptions, (for he certainly, may have the merit of industry and frugality, and these alone may make him respectable, and it must also be admitted, that every little farmer is not without the advantage of education,) the small farmer, I say, but too often ranks in education and manners, not much above the labourer : he has, originally, had but scanty means of mental instruction, and, his limited occupation affording scarcely any intellectual exercise, he necessarily remains stationary with regard to the powers of his mind, and his rank in society.

In a national view, on the contrary, and as respects the immediate object of agriculture, it cannot be denied that the large farms have had greatly the advantage : they have certainly been proportionately most productive of human food ; they have also, certainly been the principal sources of agricultural improvements ; these improvements having

been, almost exclusively, practised on large farms ; and they who have witnessed the Holkham husbandry cannot lightly appreciate them.

It has been found that there are few branches of natural philosophy, chemistry, natural history, mechanics, &c. which may not be profitably applied on a large farm. To take advantage of these, the occupier, I say, ought to be a man of education: he should be competent to his own progressive scientific improvement, by reading, observation, and intercourse with intelligent men ; and few such men whose attention, for a series of years, is unremittingly directed to one agricultural object, improvement, will fail to add something to their art, will fail to discover some process, by which their own immediate profit, and the general interest, will be forwarded. I asked Mr. Blomfield, whose discovery of a prompt and effectual method of producing permanent pasture will almost immortalize him in Norfolk, whether he thought agriculture had attained perfection ; he said, on looking back, he was surprized at the improvements effected in his time, but he had no doubt there was still much in store for future improvers.

But I will, briefly, mention the principal objections which have been brought against large farms, and endeavour to answer them by a reference to the practice and results of the Holkham system.

1st. That a large extent of land maintains only

one farmer's family, which, if divided into smaller farms, would maintain several.

2d. That large farms diminish labor; and, more mechanical means being used upon them, they employ fewer hands in proportion to their extent; throw, therefore, many out of employment, and, as a consequence, demoralize the poor and depopulate the country.

3d. That large farms, no longer, supply domestic servants; while the sons and daughters of little farmers are brought up to servitude, and fill a most useful and necessary station in society.

4th. That the subordinate objects of a farm, milk, butter, cheese, and poultry, are neglected in large farms, and that the supply of these marketable articles are thereby diminished, to the supposed inconvenience of the public.

Respecting the first, and limiting the question to the farmer and the soil, the fact must be admitted; but it cannot be considered as an evil unless the public at large suffers by it. This by no means appears to be the case; one of these large occupiers being, to the community, worth many little farmers. A well educated man, whose intellectual powers are actively and judiciously applied to any useful art, is, to society at large, of more estimation than a host of mere animal men.

On the same principle, there would be an objection to a manufacturer extending his trade in proportion to his capital. A more limited trade would

support his family, and his large manufacture, divided among more persons, would be the means of maintaining more families. Sir Robert Peel, of Manchester, and Mr. Horrocks, of Preston, ought, therefore, to have been limited in their manufactures, and no brewer, even in London, should have been permitted to brew more than a limited number of barrels, in a year. But, under such limitations, what would become of the laudable ambition of acquiring wealth and of rising in society, which operates as a never-ceasing stimulus to exertion and ingenuity? and, surely, he who cultivates the ground to produce bread, has the same right to obey its influence, as he who manufactures materials for cloathing, or he who brews porter, which, from the present habits of society, is considered almost as a necessary.

When farming was a mere system of maintenance, and formerly it was little more, and not pursued, like manufactures and commerce, as a means of acquiring wealth, small farms were adequate to the purpose; but where the object aimed at was so limited, the exertion called forth, for its attainment, was inconsiderable; and this sufficiently explains why small farms, in general, have been so unproductive. On a small scale, either in manufactures or in agriculture, the due stimulus to exertion is wanted; on a small scale and with little capital, neither the one nor the other can benefit the individual or the public. The great modern inven-

tions in manufactures, and the not less great improvements in agriculture, have equally grown out of capital, the true source of ingenuity and industry.

But after all, is it not obvious that it is the produce which maintains? and, that the system which produces most, unquestionably, maintains the most? and, in this respect, there can be no doubt of the relative superiority of large to small farms, as so strikingly exemplified in Mr. Coke's crops.

The second objection has been lately very speciously put in the *Quarterly Review*,* but I am persuaded it cannot be sustained by the fact. In the improved system of husbandry, and I can give it no other epithet, the adoption of some mechanical implements which perform their work, in some processes, better than the hand, may a little lessen the

* The speculations of literary men are often directed to subjects on which they are deficient in practical information, and many ingenious dissertations, on various subjects, in political economy, have, for this reason, failed of useful application. This remark applies peculiarly to the present subject. Literary men, as such, are little likely to be conversant with practical husbandry. Few of those, with whom literature is a profession, are even likely to be much acquainted with the common concerns of the country. Many of them are engaged to supply materials for the current daily and monthly publications; they are truly the *Hommes des Lettres* of a country, and as such, are attracted to the metropolis, where they are certainly most likely to find literary employment, but are not very likely to acquire much knowledge of rural affairs.

manual labor applied to them. The drill deposits the grain with less labor than the dibble, and better than when sown broad-cast ; and horse-hoeing is not only more effectual in destroying weeds, loosening the soil, and moulding up the plants, than hand-hoeing, but is certainly cheaper ; and, were these, the only processes on a farm, there would certainly be some diminution of labor.

But this is far from being the case ; for if a little saving be thus effected by the reduction of expence in one article of labor, the farmer is enabled to expend proportionably more on some other article ; it being clearly the interest of every farmer to apply as much labor on the various processes of his farm as his means admit of ; the labor which may be profitably applied having scarcely any limit ; the produce of a farm being, obviously, ever in proportion to the quantum of labor judiciously applied to it. The truth, however, is, the new system has actually much increased the demand for labor. The advantage of keeping the land perfectly clean, was never sufficiently appreciated under the old system, and scarcely ever sufficiently practised but in the new. This, necessarily requires more frequent ploughings, and the occasional stirring of the earth by the scarificator, and other implements. Other processes are also carried on to a greater extent : more manure, in proportion, is laid on ; more claying and marling are done ; a greater proportionate quantity of stock is reared and

fatted; all which demand additional labor; and I need scarcely add, that, judging by the Holkham and Warham crops, the most productive kind of labor, that on which the poor man, every year, places his greatest reliance, the harvest, is, on these farms, nearly doubled.

The question, moreover, may be decided by an appeal to the simple fact of a larger proportionate capital being applied on such farms; labor, as before observed, being obviously the principal and most permanent source of expenditure.

In further confirmation of this, an extraordinary circumstance was mentioned, by Lord Albemarle, at Mr. Coke's last agricultural fête, 1817: "while speaking of the absurd and senseless clamor against the drill husbandry, and what has been called the use of machinery in agriculture, as tending to abridge manual labor, his Lordship stated, that he was ready to produce incontrovertible evidence, to prove the correctness of the following statement: In two adjoining parishes, situate in a fertile part of the county of Norfolk, nearly the whole of one of them being upon Mr. Coke's estate, and the greater part of the other upon the estate of another gentleman, both landlords of the highest respectability, liberal to their tenants, and humane and benevolent to the poor; the population of both parishes being nearly equal, in proportion to their extent, and no manufactory carried on in either; yet, strange to relate, in Mr. Coke's parish, *highly*

cultivated on the drill system, with the aid of machinery, the whole population, capable of doing work, is constantly employed by the farmers, in their own parish, and these farmers, also, very frequently employ numbers of laborers from the neighbouring parish alluded to.—In that parish, *the old system of husbandry* is still followed, and the result is, a great many stout, able laborers, do not find employment among the farmers in their own parish; they are necessitated to seek out work in the neighbouring parishes, are maintained as paupers in their own parish, or what is much the same thing, sent to do unprofitable work on the roads.”—*Norfolk Chronicle*, July 12, 1817.

If, therefore, there be no diminution of labor on these farms, and the poor in their neighbourhood be idle and dissolute, and also if the population receive a check, as stated in the Quarterly Review, it must not be attributed to this cause. But this is not, even, the fact, as respects the parishes of *Holkham* and *Warham*; for they have greatly increased in population, and the moral condition of the poor has been much improved since the new system of agriculture has been adopted. *Holkham* has, in the last forty years, more than doubled its number, having increased from two to five hundred, and *Warham* has increased from two to more than three hundred, within less than that period; and, if it be true, that population follows subsistence, and subsistence grows out of labor, we must look for

these in some increased sources of labor ; and where, in these parishes, can they be found, but in the greatly-changed system of agriculture?

The increase of population in Holkham, is, however, not to be wholly attributed to the new system of husbandry, but in part to Mr. Coke's very large domestic establishment, which, at this time, numbers above sixty individuals. But making an ample deduction from this source, there will remain a large number to be placed to the account of improved agriculture ; and which still exceeds the increased number in Warham, because the new system has not been so long adopted in the latter parish, as in Holkham.

These parishes are situated near the sea, and in the vicinity of the small port of Wells ; and not many years ago the site on which Mr. Coke's stables, &c. now stand, was occupied by a few mean straggling cottages, inhabited by miserable beings, who, unable to obtain a maintenance from the inadequate produce of the agricultural labor of the neighbourhood, derived a not less precarious subsistence from smuggling, and the predatory habits connected with it ; little calculated to produce sobriety, industry, and the poor man's best virtue, economy. It was nearly the same with the unfortunate inhabitants of Warham.

The present inhabitants of both parishes are, happily, of a different character. The regular supply of subsistence derived from some unfluctuating

source of labor, more than any other circumstance, reconciles a poor man to his situation, and begets in him permanent and regular habits of industry; and like all other classes, he derives from occupation, that greatest blessing in human society, the best security against idle and vicious habits. The present system of agriculture in these parishes, amply supplies both these, and the moral influence on the poor, not less than their increased numbers, is obvious.

I would observe, as no unpleasing proof of this, that in neither of these parishes, is to be seen a poor man's prison, strangely nicknamed a work-house, for the reception of the idle. One was built twenty-five years ago, at Warham, which included also the parishes of Holkham and Wighton, and it was generally full, but two years ago, Mr. Coke was no less surprised than gratified, by a representation from his tenants themselves, that they thought it might be dispensed with, there was so much employment for the poor. It was, accordingly, taken down, and the rates are, now, actually lower. They find the necessary parochial relief can be supplied to a poor man, without interrupting the little domestic comfort he has been accustomed to, without violating his most honorable feeling, that of a wish, independently, to lay out his little earnings, or his still less allowance.

I digress a little in saying, that this also is the cheapest system. I know, from incontrovertible

facts, that the smallest and the largest, the best managed and the worst managed workhouses, all much exceed in pecuniary expenditure, the outdoor allowance system ; how much they exceed in degrading and demoralizing the poor, I need not say.

Yet I may, perhaps, be allowed to quote a passage from one of my former publications,* thinking as I do, that opinions on a subject so important to society, and so peculiarly interesting to humanity, when founded on facts, which are not to be contradicted, cannot be too widely disseminated. It is as follows :—“ On the subject of workhouses, I
 “ beg leave to say, that I have, a long while, made
 “ up my opinion ; my experience has fully con-
 “ vinced me, that they are of most difficult manage-
 “ ment ; that under the best management they are
 “ productive of more evil than good, and that un-
 “ der the worst, they are productive of incalculable
 “ mischief. The circumstances which have oc-
 “ curred in the Norwich Workhouse, cannot have
 “ impaired this conviction ; and the accumulated
 “ facts, on this important subject, contained in the
 “ parochial returns, which Government has, lately,
 “ with so much credit to itself, laid before the
 “ public, in a document, which in interest and im-
 “ portance to political economy, has not been

* Further facts relating to the Care of the Poor, and the Management of the Workhouse, in the city of Norwich. By Edward Rigby : 1812. Page 63.

“equalled in this or any other country,* have served
 “not only fully to confirm it, but to induce my un-
 “qualified assent to Mr. Rose’s remark on this sub-
 “ject, in his late excellent pamphlet, founded on
 “these returns;” *that one of the means we must
 look to, for the improvement of our system of poor
 laws, must be the abolition of Workhouses.*”†

I shall endeavor to answer the third objection by observing, that Mr. Coke selects most of his servants, domestic and others, from his cottages.

On going a few miles with him, in his barouche, a fine animated boy rode one of the leaders; his appearance much excited our attention. Mr. Coke observed it, and said he was a son of one of his laborers; and that he constantly took boys of this age into his service, and trained them to be stable boys, grooms, &c. and as they grew older, to be qualified for superior places.

How many individuals does he benefit in this way! how many are thus trained up not only to habits of regularity and industry, but to good manners, and even to something like the polish of civilized society!

* Abstract of the Answers and Returns, made pursuant to an Act passed in the 43d year of his Majesty, King George the Third, entitled an act for procuring Returns relative to the Expence and Maintenance of the Poor in England.

† Observations on the Poor Laws, and on the Management of the Poor. By the Right Hon. George Rose, M. P. Page 33.

The facility with which Mr. Coke obtains servants from this source, at once proves that there is nothing to fear, on this score, from the supposed decrease of small farms ; and I may here observe, that these having, heretofore, so much supplied them, proves, at once, the low and uneducated state of this class of farmers. Had it been otherwise, they would not, surely, have been satisfied with bringing up their sons and daughters to servitude, and with their subsequently remaining stationary in so low a situation of life ; for a farmer's establishment must be humble indeed, to render their admission into domestic service an advance in the social scale.

But it is not so from the laborer's cottage : the individual who exchanges that for a gentleman's house, gains an immediate and real step, which furthers that desirable, progressive improvement in society, effected by the gradual advance from a lower to a higher station ; and, what is not to be sufficiently appreciated, from a state, to say the least of it, of a more limited, to that of a more extended enjoyment.

Physical and moral causes are constantly operating to the keeping of a great mass of every population in the lowest tier of society : it should be the ceaseless aim of the social union, the constant object of every good government, and the earnest effort of every intelligent and benevolent individual, as much as possible, to counteract this, and there-

by, to diminish the number of this unfortunate class.

Mr. Coke, it cannot be doubted, has, in this way, contributed much to this important end, and, among the great and manifold benefits he has conferred on his poor neighbours, this is certainly not the least.

In this instance, therefore, the new system of agriculture has not operated to the injury of society; while, adverting to the improved condition of the farmer, it will, probably, be admitted, that Mr. Coke has not a little promoted the interest of general civilization, by the share he has had in creating this new and important class in society—important from the intellect it possesses, and the opulence it may reach;—the individuals in which, well educated themselves, and laudably endeavoring to effect the future promotion of their children, furthering, thereby, in a superior walk of life, the same progressive social advance before alluded to, by adequate education, intellectual and moral improvement, qualify them to be useful and distinguished in some of the professions; in literature; in commerce; or in the exercise of some of the superior arts, connected with natural philosophy, chemistry, mechanics, &c. and for their ability, and, perhaps, their disposition to do which, Mr. Coke's wealthy tenants may be as much indebted to him, as his cottage laborers.

I shall briefly answer the fourth objection by observing, that Mr. Coke and Mr. Blomfield have

each large dairies of beautiful North Devon cows ; and that Mr. Blomfield told me, one of these cows produced thirteen pounds and a half of butter weekly, four months after calving: and, with regard to poultry, I can only say, that I never saw such a display of every kind of barn-door fowls, as at Mr. Blomfield's ; and, as a proof of the extraordinary quantity of turkies he usually rears, he said, he lost five hundred by a disease which affected them, about two years before.

The vicinity to large towns and frequent markets, obviously, operates on the farmer, within a certain distance, to rear them ; but some of these large farmers, actually, rear more than common markets will, advantageously, take off, and they, in consequence, send them to London. It is, indeed, under all circumstances, the interest of the farmer to rear them, and the loss in neglecting it would obviously be greatest to the large occupier, whose annual corn crops are greatest.

From the above appeal to indisputable facts, I trust it is manifest that the new system of husbandry, even when conducted on extensive farms, is not productive of the evils which have been attributed to it ; and that were even some local, individual, and temporary inconveniences derived from it, they would be greatly outweighed by the obvious, general, and national advantage of a vastly increased productiveness. For the true remedy against scarcity, is, obviously, productiveness ; the

security against extravagant price, is, certainly, productiveness; and, while the land produces largely, even at a moderate price, the farmer will not fail of his profit.

I am here induced more directly to observe, that the charges so generally brought against Mr. Coke, of having, in the occupation of these extensive tracts of land, exercised a spirit of aggrandisement, at the expence of the little farmer, is wholly unfounded; it not being true, as alledged, that it has been his practice to lay several little farms into one, thereby throwing out of employment, and depriving of subsistence, several families, to aggrandise a single one.

The fact is, Mr. Coke, on his accession to his estate, found these large tracts of land, in single occupations; the very nature of the soil having precluded any other letting. Light land, of ordinary quality, must make up in quantity, what it wants in value; the farm alluded to at page 3, as having been lett at three shillings an acre, tithe-free, was of considerable extent, but considered as a small occupation, having been lett at so low a rent.

Mr. Coke, I say, found it in this state. He had no desire to turn the tenant out; he offered to renew his lease, for another term still at a low, though an increased rent:—the little farmer refused it, and under his system, (I must repeat it,) under his wretched system, it was prudent in him to relinquish it, at any advance; and Mr. Coke

had no other alternative than to take it into his own hands. Fortunately, he had the judgment to see, that under different culture, it might be made more productive; fortunately, he possessed the means, the only means, of making the experiment, an adequate capital.

And what has been the result? Sterility has been converted into fertility. What before was, probably, principally, a meagre sheep-walk, here and there only, exhibiting patches of ordinary rye, oats, barley, and badly cultivated turnips, with not a single ear of wheat being seen to nod over its whole surface, has become most productive land; much more than the average of crops, of even the best soils, and of the most valuable grains, having grown upon it; of, (I repeat it) from ten to twelve coombs of the best wheat, and nearly twenty coombs of excellent barley, per acre.

And will it be said that the public at large has not been benefited, greatly benefited by such an increase of produce? And will it be said that the more limited public, Mr. Coke's neighbours, the individuals, directly and indirectly, engaged in its cultivation, have not benefited, by partaking of the increased capital expended upon it? have not their numbers been increased, and their profits, and earnings, been much augmented?

It has already been observed, page 28, that in the neighbourhood of Holkham, and in a great part of the North-west of Norfolk, the land is light and

of inferior quality, not admitting of profitable culture, on a small scale, and with little capital. The great Leicester estate, in this district, consists much of this land, and many large tracts of it were lett, in single occupations, long before Mr. Coke became its possessor.

Under the improved system, so successfully practised by himself and his intelligent tenants, these large tracts of land, have, indeed, in their truest sense, become large farms; in their truest sense, as affecting the public, they have become large farms, large in their productiveness. And when the means of effecting so beneficial a change are duly considered and justly appreciated, one would have expected they would have been exempt from the slightest moral imputation.

In agriculture, every process, as well as its important result, confers benefit: at every step good is produced; nor can the most ample profit, of the largest and best managed farm, reach the proprietor, without much being given out to others.

In the acquisition of wealth, nothing, certainly, so incalculably, increases its value, as the reflection that it has not involved a sacrifice of principle. I must be allowed to say, that few occupations, from the considerations just adverted to, possess more adventitious sources of moral satisfaction than agriculture: and I will venture to instance Mr. Coke's improvement in his estate, and increase of his rental, which are wholly agricultural, as not more

unexampled for their extent and magnitude, than for their entire freedom from moral stain : I will venture to say, that such a vast acquisition of wealth was never less open to moral suspicion.

In the whole progress to its compleat attainment, there, happily, can have existed no possible motive for a deviation from the strict line of honorable integrity. In not continuing the tenant, who had, for so long a time, occupied the land, at Holkham, at three shillings per acre, free of tithes, there could be nothing approximating to oppression ; he gave him the offer of continuing it, still on terms, which the result of Mr. Coke's farming it, proved to have been most moderate.—I will not enquire, whether, in reletting his other farms, as they became vacant, and in the probable changes he made in the tenants, he was not equally just.—The reader knows it, because he, already, knows the liberal principle on which they were uniformly lett ; he already knows that, sound as was Mr. Coke's policy in granting, at that time, long and encouraging leases at moderate rents, and much, very much as he himself ultimately profited by them, the tenants must necessarily have, also, been greatly advantaged by them.

In the original investment of capital for the cultivation of the land he took into his own hands, which could not have been small, there must have been risk, but the risk was, exclusively, his own ; it was his own capital. The pecuniary transactions

of agriculture, unlike those of trade, rest also very little on credit; the current expenditure of a farm being almost limited to the paying workmen's wages and tradesmen's bills, the first of which admit of none, and the second of little credit. The occasional purchase of stock, of seed corn, artificial manure and other incidentals of a farm, is, also, made with ready money; had Mr. Coke, therefore, not possessed large property, he could not, as a farmer, have exposed creditors to much loss.

I will not ask then, whether in all these important respects, in all these varied and interesting relations, he has, not only been undeserving of censure, but whether he has not had the rare merit and singular satisfaction of having been uniformly, and throughout, a benefactor.—The reader, I am persuaded, will not doubt it.

And yet are we, gravely, to be told, that “there is a stain upon his agricultural system, which no exertions can wash away?” Are we to be told, at least by implication, “that, for his agricultural gains, he has sacrificed much happiness, which might have been created around him?” Are we to be told “that his system of large farms can only be considered as a large nuisance?” That, in consequence of this system, “the large farmer is suffered to add house to house and field to field, and to seize upon the poor man's lamb, to increase the already overflowing abundance of his own flocks and herds?” “That large farms are the

eye-sore of our modern agricultural system :” and
 “ that the encouragers of such a system are the
 last men in the world, whom their country will,
 hereafter, have to thank as its benefactors ?”*

In the manner in which Mr. Burges has noticed me, in this publication, it may, perhaps, be thought that I have reason to be gratified, and I certainly am not insensible to the amenity of his language, as referring to me personally ; nor ought I to take offence at his merely differing with me in opinion, on the subject of Mr. Coke’s agricultural system. But I must regret, and greatly regret, that such a man, so able a writer, so learned and erudite,† should, I am persuaded, without due consideration, and sufficient information, (though he has translated it into better language), have echoed the clamour of the ignorant and the prejudiced : I must regret that he should have imputed to Mr. Coke’s system, not only political, and economical, but moral blame, and that he should have said, in direct terms, “ that it has a tendency to spread an insolent defiance of all moral obligation over the surface of the whole kingdom.” Page 138. And I must express my surprize, that he should have censured me for not having noticed the subject, in a moral point of view, and have added that for such an omission it is difficult to excuse me ; page 138,

* Burges’s Letter to T. W. Coke, Esq. Page 136, &c.

† Doctus Homo et imprimis eruditus.—*Cicero*.

note ; when if he had turned to page 25, of the first edition, he would have found that I have not only noticed the imputed *demoralization* of the poor on large farms, but I have afterwards, pages 30 and 31, endeavored to disprove the fact, by a reference to the former and present state of the poor in Holkham and Warham, shewing that their *moral* condition has been no less improved, than their numbers increased, since the new system was established in both parishes.

I could not, indeed, anticipate the charge, against the system, of “ spreading an insolent defiance of all moral obligation over the kingdom ;” and even now, I confess I cannot understand in what way this moral mischief is going on, unless it be, that Mr. Burges thinks it immoral in a farmer to occupy a large tract of land, to live in a large house, and with a liberal education, to possess the manners of a gentleman, or, to use his own words, of a country squire, thereby immorally going out of his sphere. I own I see no violation of moral principle in all this ; I see, and I am pleased to see, an important rise in the scale of society, an improvement in intellect, and an advance in civilization ; all which, in my ideas, involve an amelioration in morals ; and even to this I have also, slightly adverted at page 35, of the first edition.

Though considering myself as a very humble encourager of Mr. Coke’s system, I must, nevertheless, be, also, included in Mr. Burges’s extraor-

dinary denunciation, as one of "the last men in the world whom, on this account, the country will have, hereafter, to thank as its benefactors." I can only say, that however convinced of the great good effected by the improved cultivation of these large farms, I never have advocated, nor has Mr. Coke practised, the breaking up of small farms, to create them; nor do I believe that the alarm, which, in this respect, has been so industriously disseminated, is, at all, well founded.—I am persuaded it is utterly impracticable to absorb many little farms in great ones, and am very certain, that it cannot, as yet, have taken place, to any degree, which can, possibly, have been felt as a public inconvenience.

The distribution of wealth in this country, more especially if it remains commercial, will, probably, ever continue such, as to keep property in land in too many hands, to admit of it. Farms, I have no doubt, will continue to be of various extents, and notwithstanding the change in the system of agriculture, and which may become still more general, they will, as heretofore, fluctuate in size, according to the interest, the necessities, or the caprice of proprietors. And it surely is quite as likely, in the sale of large estates, that they should be divided into small lots, as has, actually, been, lately, very much the case, as that there should be many opportunities, by purchasers, of consolidating many small ones into a few larger ones.

Large farms will, unquestionably, always have the advantage in productive and profitable cultivation, as large manufactories and extensive mercantile establishments, with large capitals, will be superior in relative profit to smaller ones, carried on with more limited capital.*

* So far from Mr. Coke having acted upon the principle, imputed to him by Mr. Burges, of oppressing the poor, and creating large farms at the expence of the smaller ones, he has been uniformly influenced by a very different principle; having, on the contrary, actually divided, where they admitted of it, the larger ones into smaller occupations; as a proof of this, there are, at this time, twelve more farms on his estate, than when he succeeded to it. Nor has he confined this principle to his patrimonial estate, he has extended it to those which he has purchased. About three years ago he bought the Egmere estate of Mr. Edmond Wodehouse; it consisted of twelve hundred acres, *for many years lett as a single farm*; but being good land, Mr. Coke, immediately, divided it into two farms, and it is now lett to two respectable tenants, for each of whom he is building an excellent house; one being nearly finished, and the other in forwardness.

In the forty-two years, in which Mr. Coke has been in possession of his estate, from the change in the system of farming, and other circumstances, a considerable alteration must necessarily have taken place, in its general arrangement, and, of course, principally in the distribution of the farms. In making these alterations, he has, in a great measure, been influenced by the quality of the land: of the weaker soils he has given a larger portion, and of the better soils a smaller quantity. In the West Norfolk district, there is much land of an inferior quality, which I have more than

But farms of every size, the smallest as well as the largest, admit of the improved cultivation, and

once, observed, does not admit of profitable cultivation on a small scale: most of these have, necessarily, continued to be lett in large tracts; but where the soil of a large farm is of a better quality, or has become permanently improved by a superior system of cultivation, on the termination of its lease, he has subdivided it; and that these subdivisions have not been inconsiderable is clear from the fact just mentioned, of the farms, on his hereditary Norfolk estate, numbering, at this time, so many more than when he took possession of it, and which has effected a greater variation in the size of them, than is commonly supposed.

At the same time he has found it expedient, in some instances, on this very same principle, the different value of the land, to enlarge some of them; but this he has not done by annexing a small farm to a larger one, not by taking from a little occupier to add to a greater, but by bringing new land into cultivation, and land, principally, of such inferior quality, as not to admit of separate profitable cultivation, or on which it could have answered to have erected houses, and the requisite buildings of a farm; it has been land obtained by new inclosures, and which, in this neighbourhood, has been, generally, of very inferior quality. Some of these he has planted, and the rest he has added, at very low and almost nominal rents, to the adjoining farms, as the only means by which he could bring them into cultivation. This, in some instances, has certainly considerably increased the measured extent of these farms; and when adequate capital, for a series of years, shall have been judiciously expended upon the new land, it may ultimately, as has been, fortunately, the case with other formerly sterile tracts on the estate, become productive land, and, at a future time, even these farms may admit of subdivision: but it is sufficiently evident, that the

the real subject of regret, with me, is, that it should have hitherto been so little adopted: for if these important results be so obvious, I confess it is somewhat extraordinary, that Mr. Coke's system should have made so slow a progress; and after so many years of practical proofs of its superiority, that, comparatively speaking, it should still be so little adopted.

The processes in agriculture are always carried on in the face of day, and, of all others, are the most open to public inspection. Mr. Coke has encouraged visitors, of every kind, to witness them; and his annual agricultural fête, must, necessarily,

present annexation of the land, is the only way in which such land could have a possible chance of being improved and becoming profitable.

Nor has Mr. Coke been inattentive to the comfort and accommodation of the numerous and increasing laborers on his different estates, the number of cottage occupations, of a superior character, raised by him, being, probably, unequalled in any other merely agricultural district.

The reader should know, that the facts contained in this note, have been immediately derived from Mr. Blaikie, Mr. Coke's intelligent steward, who has access to documents, which shew the different arrangements made on the estate since Mr. Coke became possessed of it.

After I had written the additions to the present edition, and which are principally intended to repel Mr. Burges's extraordinary attack on Mr. Coke's agricultural character and conduct, I wrote to Mr. Blaikie to be re-assured of my correctness in them, and the result has been a communication of facts, stronger and more in detail, than those I had adduced.

bring many to Holkham, impelled, at least, by curiosity.* Notwithstanding this, he says, he used the

* An ample, correct, and well-written report of Mr. Coke's celebrated Sheep-shearing, is regularly given, every year, in the Norfolk Chronicle, affording to the reader within the limits of its circulation, very interesting information respecting the important agricultural experiments and communications which take place there. The following account of the premiums to be given by Mr. Coke, at the meeting of 1818, may, perhaps, enable more distant readers to form some judgment of the character and importance to the public, of this extraordinary annual assemblage of persons interested in agriculture. On which occasions, it may be observed, Mr. Coke has sometimes, for several successive days, entertained not fewer than three hundred individuals, of various ranks and professions, of his neighbours, of strangers, and even of foreigners.

Holkham Sheep-shearing and Agricultural Meeting, 1818.

The Holkham Sheep-shearing and Agricultural Meeting for the year 1818, will commence at Holkham, on the first Monday in July, at which meeting Mr. Coke purposes to give the following premiums:—

CLASS 1st.—*Southdown Sheep.*

First.—To the person who produces, at the aforesaid meeting, the best shearling Southdown ram, *bred in any part of the kingdom*, to be shewn in his wool, and shorn at Holkham, a piece of plate value ten guineas.

Second.—To the person who produces the best Southdown ram hog, *bred by the owner in the county of Norfolk*, (to be shorn at the meeting), a piece of plate value ten guineas.

Third.—To the person who produces the fattest and best Southdown shearling wether, (in his wool) *bred and fed by the owner in the county of Norfolk*, a piece of plate value ten guineas.

drill sixteen years, before any one followed his example; and though, at this time, he trusts the

Note.—The wethers are to be shewn at Holkham, weighed alive, slaughtered, and weighed dead; due attention being paid to wool, carcase, and tallow.

Fourth.—To the person who produces ten of the fattest and best Southdown wether hoggets, (to be shorn at Holkham), *bred and fed by the owner in the county of Norfolk*, a piece of plate value ten guineas.

Note.—In adjudging the premiums offered for sheep, particular attention will be paid to the weight and texture of the wool; the weight and quality of mutton; and the lightness of offal. The exhibition of sheep will be at the sheep-house, in Holkham park, on Tuesday morning, the second day of the meeting, when and where any persons desirous of exhibiting (as extra stock) any sheep not included in the foregoing denominations, are hereby invited to send their stock. Sheep pens will be provided for them.

CLASS 2d.—*Devonshire Cattle.*

First.—To the person who produces at the meeting, as aforesaid, the best Devon bull, of any age, *and bred in any part of the kingdom*, a piece of plate value ten guineas.

Second.—To the person who produces the best two-years old Devon bull, *bred by the owner in the county of Norfolk*, a piece of plate value ten guineas.

Third.—To the person who produces the best pair of two-years old Devon heifers, *bred by the owner in the county of Norfolk*, a piece of plate value ten guineas.

Fourth.—To the person who produces the fattest and best two-years old Devon ox, *bred by the owner in the county of Norfolk*, a piece of plate value ten guineas.

Note.—The exhibition of Devon cattle will be at the great barn in Holkham park, on Tuesday morning, the second day of the meeting.

system is progressively advancing, he thinks it does not spread, or radiate, more than a mile in a year.

Any persons desirous of sending neat cattle for exhibition, (as extra stock) such cattle not being comprised under any of the foregoing denominations, are hereby invited to do so.—Standings will be provided for the cattle.

CLASS 3d.—*Pigs.*

First.—To the person who produces at the meeting, as aforesaid, the best boar pig, of any breed or sort, *and bred in any part of the kingdom*, a piece of plate value six guineas.

Second.—To the person who produces the second best boar pig, a piece of plate value four guineas.

Note.—The exhibition of pigs will be at the Longlands farm, in Holkham park, on Monday morning, the first day of the meeting.

It is particularly requested, that all candidates for premiums offered for sheep, neat cattle, and pigs, will give notice, in writing, to that effect, (to Mr. Bulling, at Longlands farm, Holkham), at least a week before the commencement of the meeting.

CLASS 4th.—*For the conversion of Arable Land into Pasture, by Transplanting Turf.*

To the person who shall have converted, *in the county of Norfolk*, the greatest number of acres (not less than ten) of arable land into pasture, by the method or process termed inoculation, that is, by transplanting good clean old turf in the most perfect husbandlike manner, and at the least comparative expence, between September, 1817, and May, 1818, a piece of plate value twenty guineas.

Note.—Notice, in writing, of the claimants for this premium must be given to Mr. Coke (or to his agent at Holkham), on or before the tenth day of May, 1818.

Certificates as to quantity of land, proficiency of execution, and amount of expence, will be required; also, the name of the nearest post town to the claimant's or candidate's residence.

One would have expected the very reverse of this: knowing how much men, in general, are in-

CLASS 5th.—*Implements of Husbandry.*

To the person who produces at the meeting, as aforesaid, the best and most useful new-invented, or newly-improved implement of husbandry, a piece of plate value ten guineas.

Note.—The exhibition of implements will be at Longlands farm, Holkham, on Monday morning, the first day of the meeting, and notice, in writing, of candidates for the premium to be given to Mr. Bulling, at Longlands farm, at least a week before the meeting.

CLASS 6th.—*Shepherds.*

First.—To the shepherd who shall have had, *in the county of Norfolk*, on the first day of June, 1818, the greatest number of lambs in proportion to the number of ewes put to the tup (certified according to the form hereunto annexed.)

If not less than 500 ewes, the sum of five guineas.

2d.—If not less than 400 ewes, four guineas.

3d.—If not less than 300 ewes, three guineas.

4th.—If not less than 200 ewes, two guineas.

Form of Certificate.

This is to certify that A. B. shepherd to C. D. in the county of Norfolk, is a claimant for one of the premiums offered by Thomas William Coke, Esq. for the encouragement of shepherds—year 1818.

The said A. B. had under his care and management ewes put to the ram in 1817, and on the 1st day of June, 1818, the return of the flock stood as follows:

lambs,	ewes barren,	ewes dead.
--------	--------------	------------

Signed C. D.

Master or mistress of the said A. B. and owner of the said flock.

Witness { E. F.
 { G. H.

Note.—The certificates to be filled up and delivered to Mr.

fluenced by a sense of their interest, one would have expected that its progress would have been rapid, and that every farmer, who once witnessed its superiority, would have adopted it.

Bulling, at Longlands farm, Holkham, at least a week before the meeting. It is also necessary to mention the breed or description of the flock.

CLASS 7th.—*Ploughmen.*

First.—To the farmer, son, or pupil of a farmer, occupying not less than 50 acres of arable land, *in the county of Norfolk*, who shall set out and plough, with a pair of Devon oxen, in the shortest time, and in the most perfect husbandlike manner, a piece of land upon Holkham farm, according to directions which will be given at the meeting, a piece of plate value ten guineas.

Second.—To the best ploughman, being a regular farm labourer, who sets out and ploughs a piece of land as before described, the sum of five guineas.

Third.—To the second best ploughman, four guineas.

Fourth.—To the third best ploughman, three guineas.

Fifth.—To the fourth best ploughman, two guineas.

Sixth.—To the fifth best ploughman, one guinea.

Note.—The ploughing match will be on the morning of the third day of the meeting; notice of the competitors to be given, in writing, to Mr. Bullen, at Longlands farm, at least a week before the meeting.

In awarding the premiums it will be left to the discretion of the judges to withhold any of the premiums, should they consider the claimants as not having sufficient merit to entitle them to those premiums.

Holkham, August 14th, 1817.

By order of THOS. WM. COKE, Esq.

FRANCIS BLAICKIE.

Norfolk Chronicle, August 23, 1817.

What then has prevented it? Prejudice, that bane of all improvements; a rooted attachment to old habits; an ignorant impatience of change, and a want of capital.*

Either utter ignorance of the new system, or one or all of the causes just recited, keep a great part of the kingdom in a lamentable state of agricultural unproductiveness.

In the course of the summer of 1816, Mr. Coke had an opportunity of witnessing the great nakedness of the land, in the naturally fertile counties of Salop and Chester.

In Shropshire, he visited many farms, and made many enquiries: the result of these was, that the average produce of wheat was not more than four coombs per acre; and what is singular, he saw only two sheep in the county; one he met on the road, consigned to Mr. Roscoe, in Lancashire; and the other was a ram, chained in a corner of a field, that it might not do mischief.

In Cheshire, the wretched system of a century back still prevails; the very system which Arthur Young describes and reprobates, as existing in the interior of France previously to the revolution. Once in a certain number of years, the grass lands are broken up and sown, for a few successive years, with corn, the last crop being wheat, the

* And I may add in Dr. Darwin's impressive words, on the same subject, "because it is difficult to teach any thing new to adult ignorance."—*Phytologia*, page 289.

stubble is ploughed in, which is called mucking, and the land is left to the natural growth of indigenous grass ; which is, however, generally so abundant, and the land so fertile, that it seldom fails of becoming rich pasture, though necessarily very foul.

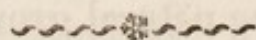
Under a different system of husbandry, with the advantage of a turnip crop, its accompanying manure, and the destruction of weeds, by horsehoeing, &c. what might not be produced in these two naturally favored counties ?

I can only, further, express a wish, and I trust it is a patriotic one, that this admirable system, for which the country is so much indebted to Mr. Coke, may be duly appreciated ; that it may extend in various directions, and in time, be so generally established throughout the whole empire, as, by its proportionately greater productiveness, to meet the more pressing wants of an increasing population, and be the means, (and I am persuaded there can be no other means,) of preventing the recurrence of scarcity, and its attendant distress.

E. R.

November 2, 1817.

Published by the same Author.



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ERRATA.

Page 2, line 22, for *upon it* read *there*.

Page 6, line 5, for *said* read *added*.

Page 20, line 1, before *transplanted* insert *turf*.

Page 49, note—after *Burgis's Letter to T. W.*
Coke, Esq. add *second Edition*.

