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A  
 DISSERTATION  
 ON THE  
 CHIEF OBSTACLES  
 TO THE  
 IMPROVEMENT of LAND,

And introducing better METHODS of AGRICULTURE  
 throughout Scotland.

At nunc eadem illa, (sciz. quae ad agriculturam pertinent) vincti pedes,  
 damnatae manus, inscripti vultus excercent. PLIN.

A B E R D E E N:

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MDCCLX.

DISSERTATION

ON THE

Entered in STATIONERS-HALL,

according to Act of Parliament.

TO THE HONOURABLE  
The MEMBERS of the FARMING CLUB

At GORDONS-MILN near OLD ABERDEEN.

GENTLEMEN,

EVERY lover of his country must  
hear with very great satisfaction of  
your having formed yourselves into a  
society for the promoting of agriculture  
in your neighbourhood. As such institu-  
tions are so highly conducive to advance  
the publick utility, it were much to be  
wished that so laudable an example were  
generally imitated, and that such clubs  
were formed by gentlemen in different dis-  
tricts all over the kingdom. The good  
intentions of the society which is so wor-  
thily instituted at Edinburgh for the en-  
couragement of arts and agriculture, would  
by that means be rendered more speedily  
and more generally useful. These par-  
ticular associations may consider, what  
method

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method of improvement is best adapted to the peculiar circumstances of their respective provinces, with much greater attention, than can be expected from a general society, which has the whole kingdom in a manner, for the object of its regard. The practice of right methods of husbandry may also be more successfully introduced in any neighbourhood by a particular society, whose members have there considerable interest and influence, than could be done merely by the recommendation of gentlemen who have no connections in that part of the country.

It is not indeed to be expected that every district should furnish a society so happily composed as yours. Some of your members are eminent for their rank and fortune, and still more for disinterestedness and publick spirit; others are distinguished by the learned professions in which they usefully serve their country, and no less for their genius and extensive capacity; while all are specially fitted for  
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the end of your institution by having more or less put their hand to the plough. May it not be also hoped from such a society as yours, that the science which you cultivate will, by your means, be enriched with useful discoveries; and that many important facts which at present are doubtful, shall by your repeated and properly conducted experiments, become duly ascertained?

As it is the sincere design of the following dissertation to prepare the way, in some measure, for the success of the laudable endeavours of your society, and of others who have the like ends in view, by calling on the publick attention to such obstacles as might impede your progress, it is hoped you'll the more readily admit of the claim that is made on your honourable society for their countenance to this publication. The author could have wished that the liberty he takes, without asking your consent, of ushering the following dissertation into the world, under the shelter of this address, could  
have

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have been as well justified from the merits of the performance, as from the importance of the subject and integrity of his intention. But if the general idea which is inculcated be right and tolerably supported on the main, candid allowances will be made by ingenuous minds for the difficulty which one in retired life labours under when he undertakes to investigate a subject that requires very extensive means of information. I have the honour to be

Gentlemen

your most obedient

and

most humble servant

Feb. 11.  
1760.

The AUTHOR.

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† Some sheets of the following Dissertation were printed off before the Author saw the proofs, and he had it not in his power to attend so minutely to the rest as he designed. But, as this only prevented the correcting of some errors in style, and particularly in the structure of some of the sentences, which do not affect the sense, it is hoped that these defects will be the more readily excused. Some typographical errors have also been overlook'd, the most material of which may be corrected as follows. viz. Motto on the title read *exercet*. page 10. line 27. read *on the numbers*. p. 12. l. 17. r. *probably more*. p. 18. l. 4. r. *steps*, &c. p. 23. l. 11. after *former* should be a full point. p. 29. l. 23. r. *manufacturers and traders*. p. 30. l. 25. r. *hence then it follows*. p. 43. l. 5. r. *affected*. p. 53. l. 13. *dele* and: p. 59. l. penult *dele* and *six pence*. p. 90. l. 3. r. *may be found*.

**N. B.** The binder is to place this leaf after the dedication.

**INTRODUCTION.**

**B**EFORE there was any experience of what might be effected in Scotland by better husbandry than that which generally obtains, soil and climate bore the blame of all. It was generally concluded that no other kind of agriculture could possibly take place in our native country; whatever it might do elsewhere; and consequently that no better produce either as to quantity or quality, was ever to be expected; and that to attempt to bring ground under tillage, which had not formerly been cultivated, was a vain work that would never quit the cost. Thus, more than a half of the kingdom continued to be a desert, and the remainder to be cultivated in so poor a way, as hardly to afford a scanty living to the farmer, a small rent to the landlord, and scanty bread of a very indifferent quality, to the few manufacturers and labourers that would live among us. Repeated and successful trials, have at length opened the eyes of our countrymen, and most heritors are now convinced that better husbandry might be introduced with great advantage; so that a more plentiful produce might be obtained from their estates. They are accordingly, for the most part, very solicitous to get this brought about, both for their own advantage and also for that of their native country. A

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very few of them have succeeded and greatly improved their own fortunes and those of their tenants; have added to the produce of their country and improved its quality.

Nevertheless, this bears but a small proportion to the whole, and the same bad husbandry as ever generally obtains. What is taken off from the desarts, is hardly perceptible; nor is the progress that is at present making, like to have any sensible effect on the general state of the country in many ages. To what is this owing? What are the chief obstacles that impede the progress of this improvement? Is it in the power of heritors to remove them in any considerable degree? If it be, may it not be expected that this will be in some measure accomplished, as duty and interest conspire to induce them to exert their power and influence for that end? The present design is therefore to point out the principal obstacles to the further improvement of land in Scotland; to show that it is in the power of heritors in a great measure to remove them, and how necessary it is for them to do so, as well for their own interest as for the prosperity of their native country.

If this attempt should do no more than to engage others better qualified for such an undertaking to employ their thoughts on the subject, and to execute more fully what is here well intended, it will not be altogether useless.

The facts, as to the present state of farms and farming, are chiefly taken from what was observed

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served in the county of Aberdeen, and part of the counties bordering on it. Whether this can be admitted as the medium, or general state of farms and farming through Scotland is submitted. There is to be met with in that county the practice of almost all kinds of farming that any where obtains in the kingdom. The examples of the best indeed are very rare, and the very worst kinds generally prevail; in which view there is but too much ground to plead for its being admitted as representative of the whole. As it runs from the middle ridge of the island to the sea coast, it comprehends highlands and lowlands, and all kinds of soils. It is in a middle situation with respect to the rest of Scotland, as to climate. Tho' it has in so far the advantage of some counties, that improvement of land may be said to be there in some measure begun, yet it is as far behind hand with others in the progress they have made. Nevertheless, when the state of things in other counties are so far different, as evidently not to be comprehended under the general view of things here, and the taking notice of them is necessary for illustrating the subject, this is not omitted, so far as the facts were known.

In speaking of Scotland in general, the isles are not included, as the extent and state of most of them are little known. It is however presumed that the taking them into the consideration would only have encreased to a much greater proportion that class of lands reckoned desart and

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uncultivated;

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uncultivated; and rather have made the representation of the present number of people, produce, and value of lands less favourable, in respect of the whole kingdom than it is in respect only of the continent. Many will probably have better opportunities of ascertaining with precision the facts on which several of the computations in the following dissertation depend; than it was in the writer's power to enjoy. Their making a proper use of these advantages, and ascertaining the facts accordingly, will be of great use in all considerations relative to the police of the country. At present, the conclusions are drawn only as probabilities, as being from premises not absolutely certain; and in any computation, the advantage is always intended, on this account, to be given to that side which makes against the argument. It is very common, however, for a matter to appear probable to one person, while another, viewing the uncertain premises in a different light, concludes the very reverse. The conclusions therefore, are not summarily mentioned, but the premises are also so far subjoined, as may enable every one to judge for himself, whether the conclusions be probable or not.

The learned author of a late excellent dissertation on the numbers of mankind in antient and modern times, has, by a most ingenious investigation of the causes of the decrease of mankind, and a short but most judicious application of his subject to the present state of Scotland, handled

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a disquisition that at first might appear to be a matter of mere curiosity and speculation, in such a way as to afford useful maxims for regulating the œconomy and police of his native country. His sentiments cannot be too deeply engraved on the mind of every one that studies the welfare and prosperity of Scotland. It is hoped that such conclusions in this dissertation as may be deduced from the principles, or supported by the opinion of that candid and judicious writer, will on that account be judged to merit the greater attention and regard.

## SECTION. I.

*Of the Extent, Number of Inhabitants, and Amount of the Land Produce of Scotland.*

THE extent of Scotland is variously represented; some reckon its area, exclusive of the isles, to amount to 23,476 square miles, while others reduce it to 17,250. Its length, however; as generally laid down in the maps, is 3 degrees, 50 minutes of latitude, which at 60 miles to each degree, makes, 230 miles. Its breadth is various, the greatest being 3 degrees of longitude, and the least two. The different representations of the area, have probably arisen from some having supposed the breadth in general, to approach nearly to the greatest, and others to the least; whereas in

fact, the medium betwixt the two would appear to be that which generally prevails; rather indeed inclining more to the greater breadth, than the least. In this view, 90 miles seems to be the breadth that is to be assumed, in computing the area, as being the medium betwixt 108 and 72 miles, which are the greatest and least breadths, allowing 36 miles to a degree of longitude; and this brings the area to 20,700 square miles.

The above extent comprehends both land and water, as it is inclusive of friths, lakes, and rivers; which, in Scotland, being of some consideration, especially along the coasts, ought to be excluded in a computation that is to regard only land produce. As the inquiry extends only to such produce as is used for food, and as some part of the land is necessarily occupied with wood, and more probably ought to be so, if there were enough of it to answer all the requisite accomodations, there ought also to be a deduction on this account: It is impossible to ascertain either of these exactly; but it is thought if one 20<sup>th</sup> of the whole be allowed for wood and water, the allowance cannot be greatly wrong. This being admitted, there remains of dry ground, over and above what is, or may be occupied with woods, somewhat more than 19,000 square miles, which, at 640 acres to the mile, make 12,160,000 acres.

The number of inhabitants is as variously computed as the extent, being reckoned, including the inhabitants of the isles, from one to two millions,

millions. The medium here would seem not to be greatly wide of the truth; or at least if a million and a half be supposed in Scotland exclusive of the isles, this will not probably be too low a calculation. Ministers make up annual lists of the catechisable persons in their several parishes, that is, of all that are about seven years of age and above it. If these lists contained persons of all ages, and a report from each parish were made to the general assembly, the number of inhabitants might be ascertained with great precision; and this fact is oft very proper to be known, in considering several matters relative to the police of the country. During the dearth in the year 1740 lists of the inhabitants of all ages were made up in several parishes. A few of these were afterwards compared with the examination rolls, and the proportion of persons of all ages to those of seven years and upwards, turned out to be as 14 to 11, nearly. If this proportion were admitted as a general rule, the number of inhabitants in the continent cannot be stated too low at a million and a half. For, the number of examinable persons in town and country parishes, is commonly reckoned at an average, to be about 1200 in each, and hardly ever so high as 1300. But, taking it at the highest, the whole number of inhabitants in 936 parishes (which include the islands) would, by the above proportion, amount only to 1,548,146.\*

\* The author of the Diss. on the Numb. of Mank. reckons a million and a half of inhabitants, too high a computation for the whole of Scotland (vid. not. p. 88. on Templeman's and Fletcher's computations)



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The lands of Scotland may be divided into two classes, the cultivated, and uncultivated, or desert. The former, whether in grass or grain farms, is generally far from being cultivated so as to yield its best for human sustenance, nor is the latter so thoroughly neglected as that no produce whatever is procured from it, that may contribute to nourishment. But what it affords is so trifling, that in comparison of the other, or of the cultivation it might receive, and the produce that might thereby be derived from it, it is reckoned barren, desert, or uncultivated. The proportion of extent which these two classes, bear to each other, varies in different counties. But as the North-West highlands have so small a proportion of their great extent that can be reckoned cultivated; as there are large tracts in most other counties that yield no more than the wildest highlands; and as most farms North of Forth, and many South of it, have such large appendages of moor, heath, and commons, employed to no better purpose than those in the highlands, there seems reason to conclude, that on the whole the uncultivated grounds, are considerably more extensive than the cultivated. The difference however shall only be reckoned a little more than a 12<sup>th</sup> of the whole and 5,500,000 acres shall be ascribed to the cultivated and therefore that number, exclusive of the inhabitants of the islands, must of course, in his opinion, be considerably over-rated, and indeed it is meant as rather above than below the highest that with any shadow of reason can be computed. Nevertheless, with all deference to so good a judge, it would seem rather probable, that, including the islands, a million and a half is not too high a computation.

## On the chief OBSTACLES, &amp;c. 15

cultivated class, and the remaining 6,660,000 to the barren or desert.

From repeated observation, and as extensive inquiry as seemed necessary for a probable computation, the returns from an acre of cultivated ground, in Aberdeenshire and that neighbourhood when sown with grain, does not at an average exceed three, and is not under two and a half. And therefore may be stated at two and  $\frac{3}{4}$ <sup>ths</sup> whether this may not be admitted as the medium of the return of cultivated land in Scotland, when sown with grain, for the reasons before given, is submitted. One boll at an average being allowed to an acre for seed, there remains one and  $\frac{3}{4}$ <sup>ths</sup> bolls from each acre for consumption. In a like extent of the cultivated class of grass farms, it would seem probable, that such of them as afford an equal rent with the grain farms, yield also an equivalent produce for human sustenance, either in flesh, milk, &c. For the more easy computation, their produce shall be stated under the same denomination with the former, and called that number of bolls to which it is equivalent. In this view the whole cultivated class whether in grass or grain farms, will yield 9,625,000 bolls of grain, or the equivalent for human sustenance, after deducing seed and stock.

Some produce, as observed, is also to be expected from the class reckoned uncultivated. But as, so far as there has been occasion to observe, an ordinary cultivated grain farm, yields 30 times the rent that is paid for a like extent of the uncultivated

tivated, the produce cannot be reckoned above one 30<sup>th</sup> of a like extent of the cultivated. At this rate the whole uncultivated class will yield for consumpt 388,500 bolls, or the equivalent. Both added together, make the whole land produce of Scotland for consumpt, amount to 10,013,500 bolls of grain, or the equivalent in fashes, milk &c.

The grain produce of Scotland is chiefly oats, one boll of which, even of that kind called great oats, will hardly yield a boll of meal at an average. But where that degenerate kind called small oats obtains, which is in many places of the North of Scotland, the boll of such oats will not yield above half a boll of meal. The better sorts of grain, as wheat, barley, &c. one boll of which yields considerably more than a boll of flower or meal, may be allowed, however, to compensate for the deficiency of the oats; and the bolls of grain may on this account be estimated as equal to so many bolls of the best oatmeal. This valued at 10 shillings sterling per boll, makes the value of the whole land produce of Scotland for human sustenance, amount to 5,006,750 *l.* sterling.

Suppose the rent of lands in Scotland to be one third of the produce allowed for consumpt, which is a high enough proportion for rent, when the produce is so small, an acre of cultivated ground pays then at an average 5 *s.* 10 *d.* sterling, and an acre of uncultivated 2 *d.* one 3<sup>d</sup> sterling. As the uncultivated

vated is the larger class, an acre of Scots ground affords not in rent at a medium quite 3 *s.* sterling. This may show at least, that the produce is not stated too low, since, however contemptible an idea it may give of the present value of land in Scotland, the whole rent, exclusive of the islands, fisheries and woods, would at that rate amount to 1,668,916 *l.* sterling, whereas tho' every parish, were at a medium 1200 *l.* sterling of rent, which is undoubtedly too high, the whole rent of the kingdom, including the islands and fisheries, would not amount to 1,200,000 *l.* sterling.

Farther, if we consider the home consumpt, a servant's or labourer's boll, as it is called, that is his food, amounts to 6 1-2 bolls or 3 *l.* 5 *s.* sterling yearly. Women, infants, and old and sedentary people cannot be supposed to eat so much. Yet, as there are great quantities of grain also given to horses and consumed in ale and spirits, it would seem not unreasonable, if in order to avoid separate computations, these were omitted, and the home consumpt reckoned equal to what it would amount to if the consumpt of every individual in food were equal to that of a servant or labourer. If a family at an average consist of six persons, there will be 250,000 families in Scotland. The consumpt of each family will then at a medium amount to 19 *l.* 10 *s.* sterling, or to give all advantage to the argument against the supposed smallness of the produce, let it be called 20 *l.* The home consumpt will at this rate be

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to the value of 5,000,000 *l.* sterl. which is somewhat below the land produce as above computed. Since then, the yearly land produce of grain, fishes, &c. as above stated, is sufficient for maintaining the whole inhabitants; tho' there were no import of food, and no produce of fish from the seas and rivers, it follows, that the export would, on this supposition not only ballance the import, but also leave over and above a free ballance equal to the value of grain and cattle saved, by all the fish consumed in the kingdom. If we should suppose the fish consumed to be equal to one meal in a fortnight to every inhabitant, or, 1-42<sup>d</sup> of the whole food, the profit on export of grain and cattle would then exceed the import by 119,047 *l.* sterl. which would be the yearly ballance in favour of Scotland. The produce then when stated so as to admit of this yearly profit cannot well be reckoned too low. The fish consumed is indeed very probably more in proportion to the whole food than it is stated at, but as there behoved to have been a deduction on account of the grain imported being generally of higher value than the same quantity of the kinds of grain exported, tho' they might be equal when considered as food, the article of fish consumed was stated low, to compensate in some measure for this claim, and tho' it be impossible to state this with any precision, yet the allowance is full as great as with any show of reason could be demanded. On the whole, there appears reason

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on to conclude, that the present state of Scotland is very poor, whether we consider the land produce, or number of inhabitants; that the present produce would maintain few more people than there are at present; and that tho' the proprietors of land oft suffer for want of markets to their grain, this is more owing to its being of bad kinds than to a large produce.

## S E C T. II.

*Of the Produce and Rent which Scotland might yield, and the Numbers of People it might maintain, if properly cultivated.*

**T**H<sup>O'</sup> it be now generally admitted, that Scotland is capable of considerable improvement; yet it is as commonly allowed, that when the best is done, the produce, and consequently the number of inhabitants to be maintained by it, behoved, in so bleak a climate and so rugged a country, to fall greatly short of what might be expected in countries more agreeably circumstanced in these respects. Yet there appears not any thing either from reason or experience to make this concession necessary, at least not in so great a degree as is commonly done. Tho' we have not sun enough to ripen some rich fruits, vines, balsams, and aromattick herbs, yet these things are to be reckoned rather among the delicacies than necessaries of life, and people may live very comfortably without them. That our

climate is sufficient to ripen all that is necessary for human sustenance, cloathing and habitation; and even as to food, of kinds various, wholesome and agreeable, every year's experience assures us. The experiments also that have been made of a proper cultivation of the soil show, that when this is applyed, the produce is not inferiour in quantity to what more favourable climates generally afford. The roughness of the country no doubt requires more labour to its cultivation, and that the stock and labour of a greater number of people should be applyed this way, than may be necessary in countries of easier cultivation, for which accordingly nature has provided in most Northern climates, by the fertility and hardiness of the people, if this advantage were not counteracted or lost by the ill management or carelessness of those upon whom the caring for the due cultivation of the lands depends. But, admitting the application of necessary labour and stock, in order to subdue the roughness of the country, there is no reason to doubt of a produce equal to what is obtained where the cultivation is naturally easier. What follows therefore from the bleakness of our climate and roughness of our soil, is not that our country is inferior to any in producing the necessaries and comforts of life, but that it is so as to the delicacies; and not that the produce it yields must be greatly inferiour to that of other countries in quantity, but that more stock and hands must be employed

ployed to raise it, or that a greater proportion of the inhabitants must be employed in agriculture than is necessary in countries of easier cultivation; at least till the country be once thoroughly subdued, after which no doubt less labour would be requisite

There is no doubt a great difference betwixt the highest produce which it is possible to conceive that land may be brought to yield, and that which it probably may produce by human skill and industry, applied in such degrees as have been known to be generally practicable. It is in this last view only that it can be considered how far any improvement is practicable, the former being as extensive as imagination and therefore not the subject of inquiry.

What has been formerly done, is one sure rule of judging, what in like circumstances may be done again. Where some circumstances alter, and a probable allowance only can be made for the alteration, a conclusion becomes only probable that otherways would have been certain, and there being no known instance of a country of like soil and climate with Scotland improved in the high degree in which others have been, we can only make a probable conclusion as to it, from what is known of countries in more favourable circumstances in these respects.

About the time of Romulus, two acres of ground may be considered as not under the general allotment for the maintenance of a family,

in many countries particularly in Italy, Greece, &c. so greatly did they then swarm with inhabitants; and as the soil and climate is still the same, so might they still abound with people if tyranny and luxury did not prevent their increase. \*

If the same moderation as to food and cloathing and other accomodations prevailed now in Scotland, which obtained in Greece and Italy, in the days of Romulus, there would be little doubt, notwithstanding the difference of soil and climate, but many thousands of acres might be found in it, two of which might be so cultivated as to do the same. It has not been uncommon of late, in the best grounds about the towns of Aberdeen, to raise crops of roots, greens, bear, grafs, &c. to the value of 12 *l.* sterl. per acre, 20 *l.* is the medium value at present for a family's food, the general consumpt of liquors and food for horses being included in that value. In times of moderation,

the  
 \* It is hardly to be expected that any thing relating to such remote antiquity, can well be established with greater certainty than the fact as to the extraordinary populousness of many countries about the times refered to, in comparison of what now generally obtains, is established by the author of the Differtation on the Numbers of Mankind. From his learned and ingenious computations (p. 39, &c.) it will evidently appear that in many countries there was hardly one acre to each family. Nevertheless, as many eminent writers, such as Harrington, Lowman, &c. not having entered into the disquisition with such accuracy as the above author, or, perhaps not attending very critically to the extent of the *jugerum*, speak of two acres in general as the allotment about that time; the foundation of the argument is placed on that supposition, to take away any suspicion, however ill grounded, that the computation stands on a narrow bottom.

the charge no doubt would be less, by an abatement in the article of ale and spirits. But, as it is, the produce of two acres at the above amount, not only finds food for a family, but leaves also a moderate overplus for other accommodations.

Nay, there are instances near the same towns, of land of as indifferent a soil as can well be met with in Scotland, and encumbered with almost every impediment that could render its cultivation difficult, being brought to yield a produce little inferiour to the former, large tracts of ground, where a few years ago nothing could be seen but multitudes of stones of all dimensions, with heath, whins and the like, in the intervals, are now transformed into well cultivated fields yielding yearly a rich produce of roots, grain and grafs.

But when an effect depends upon the operation and industry of a multitude, it must fail more considerably in situations where the operation is attended with difficulty, than where it is otherwise; and therefore, *cet. paribus*, the produce of a country so far inferiour in soil and climate to Greece and Italy, as Scotland is, and of so much more difficult cultivation, must on the whole fail more considerably in attaining to the highest produce, than these others do. For, tho' here and there, the superior industry of a few particulars may so far get the advantage of their more difficult circumstances, as to raise a produce where they are concerned, equal to that which is generally

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ly obtained in a more favourable situation, it would be folly to expect that the same degree of application, skill and attention, could be diffused among a great multitude.

But if instead of two acres to a family three times as much viz. six acres were allowed, or an acre to each individual, surely this may be supposed sufficient to make up for the difference of soil and climate, and the superior difficulty of cultivation; yet even at this rate, Scotland might yield a produce sufficient to maintain above 12,000,000 of people, which is probably few less than all the British empire at present contains. There may, however be a further demand for the high luxury of the present, in comparison of those primitive times. Indeed this may very probably need a greater allowance than either soil or climate. For, tho' only the same quantity of food may be consumed in a nation where the diet is luxurious, as in one where it is more simple, yet the quantity of the produce consumed in liquors and spirits will be greater in the one than the other. Besides, both as to meat and drink, greater quantities of the less delicate produce must in a luxurious country be converted into less quantities of a more delicate kind. It is all one whether this be done by employing a greater proportion of ground, in raising at home these delicacies which the climate will admit of, instead of those necessaries of which it would yield a more plentiful produce, or, by  
bartering

*On the chief OBSTACLES, &c.* 25

bartering and exchanging greater quantities of home produce for less quantities of foreign. In either way, the national produce will maintain a fewer number of people in proportion to the degree of luxury\*. Let then two acres more be added for the maintenance of every individual, which will make three acres in all for every person of whatever age or sex, or 18 for every family, yet after all these large allowances for difference of soil and climate, for difficulty of cultivation, and for luxury, it follows that the land in Scotland might be so far improved as to yield a produce sufficient to maintain above four millions of people; which produce, at the same allowance to a family as formerly, would be in value above 13 millions and three hundred thousand pounds sterl. or about 22 s. sterl. for each acre. One third of this for rent, would be above four millions and four hundred thousand pounds, which is at least three millions more than at present; an article not unworthy the attention of the landed interest.

That this degree of improvement as to produce and inhabitants, may in process of time by industry, skill, application and proper management be attained, the present flourishing condition of our English neighbours renders still more probable. England is reckoned to contain eight millions

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\* Vid. Numbers of Mankind, p: 114, &c. where the influence which the loss of ancient simplicity and frugality has on the numbers of mankind is fully considered.

of people, and to be on the encreasing hand. It affords this multitude all the necessaries of life in a comfortable way, and an overplus of produce to procure many articles relative to luxury and splendour, tho' no doubt the profits of its trade and manufactures are necessary in a great measure to maintain the present height of luxury. Yet England is not above twice and one half the extent of Scotland, has its mountains and places of difficult cultivation as well as our native country, is far from being completely improved, having many moors, desarts, and commons as well as we, and much very imperfectly cultivated; and if all these were put on the same footing with the better cultivated, there could be little doubt of its maintaining two millions of more people than at present, and why may not Scotland attain to a proportionable number? We have the advantage of them as to fisheries, and if more of our country in proportion, be of more difficult cultivation, the consequence only is, that a greater proportion of the people being employed in agriculture here than in England, we must have fewer manufacturers, and not pretend to the same extravagance in luxury, an article that may admit of some abatement and not much hurt our comfort.

SECT.

\* In the Collections for the improvement of husbandry and trade published in weekly papers A. D. 1692, there is a letter of the famous Dr. Halley's, giving an account of a very extraordinary method which he took to compute the extent of England, by cutting out

SECT. III.

*Of the Means of improving the Land Produce of Scotland. Of the several Classes of the Inhabitants. Of Emigrations.*

IT will readily be admitted, that in a new settled country, the chief strength and stock of the people ought to be employed in agriculture. Tho' Scotland has been long inhabited, yet, as to the cultivation of the country, it is not in circumstances much more favourable than those of a new settlement. It is indeed cleared of its original woods so effectually, and with so little judgment, as to be in great want of wood for neces-

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the map of England, and weighing it in very nice scales, and comparing the weight of the whole, with that of a circle taken out of the middle of the map, whose diamiter was two degrees. The very conceits of men of great genius are generally curious, tho' perhaps just as useless as those of other people. Accordingly, instead of failing about a million of acres or so, with which he lays his account, it exceeds the most probable computations that have been made, rather about nine millions; for his amount turns out to be little less than 40 millions of acres, whereas few have with great probability made it above 30 or 31 millions, which makes it about twice and a half as big as Scotland without the islands, as above supposed. In that same collection there is a list of the whole number of houses in every county in England and Wales, amounting in all to 1,175,951. Supposing six persons to every family or house, this makes the number of inhabitants to have been then about seven millions, so that the numbers must have encreased about one million in the last half century. Supposing the extent to be 30 millions of acres, there has been then about 25 acres to every house; whereas, supposing eight millions of inhabitants as at present, and there will be in the same extent, less than 23 acres to every house, or nearly four to each person.

Vid. the Collections &c. Vol. 2 Nr. 25. and 27.

fary accomodations, which makes the raising again of a due proportion, and in proper situation a matter of great concernment. But what progress has been made since the original woods were cleared away? That was one step towards the cultivation of the country, but much more must be done, particularly in such a country as Scotland, before that be attained. The soil in many places must be cleared of the stones that encumber the surface, and prevent all culture till they be removed. In many places water must be drained off, that chills the soil, and either prevents labour, or renders it vain. The heath, whins, and useles shrubs that overspread the surface must be removed, and all or some of these remain to be executed over the greater part of Scotland. Yet, tho' all of them were done, it would be no more but rendering the land capable of ordinary culture. The fencing and enclosing, the subduing and enriching by labour and manure, the soil of all the land as yet uncultivated, as well as of much that is said to be so, would still remain to be executed. Is it not then plain, that Scotland, notwithstanding it has been long inhabited, is truly as yet in the state of a new settlement, and consequently that the main attention, strength and stock of the inhabitants ought at present to be applyed to agriculture? Nay, from the acknowledged difficulties of cultivation of Scots ground, must there not rather be a greater proportion of the strength and stock of the people

people applyed in Scotland, than in most other countries would be requisite? The number of inhabitants and produce in any country, have a mutual influence and tend to promote each other, if there be no unnatural obstacles. But this connection seems yet to be greater in Scotland than in most other places, as nothing but a multitude of people can ever with us raise a considerable produce; as on the other hand, the taking the proper measures for such a produce will as naturally increase the number of settlers, and quickly multiply the people.

There must no doubt be a proportion of the inhabitants employed in trade, manufactures, and handy-crafts, otherways the necessary accomodations would be wanting. This also gives life and spirit to the farmer, and enables and encourages him to proceed when he finds his overplus produce readily taken off his hand; as on the other hand, the plenty of provisions brought to market by the farmer, as well as the demand for their manufactures and goods, encourage the manufactures and traders. Such a happy influence have agriculture and manufactures on each other. When traders and manufacturers are few, and do not increase in proportion, the farmer must seek a foreign market which is precarious, and agriculture stops and languishes. But when any obstacles stop the progress of agriculture, the manufacturers must knock up, both for want of market and food, if it be not in a very peculiar  
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and rare situation. Wherever agriculture is attended to, manufactures will follow, if there be not some error in the government or police of the country to impede them; so that there is no fear of discouraging manufactures by drawing as much of the strength and stock of a new community as possible to agriculture. For, manufacturers will, like water at an opened sluice, rush in to such a country, till along with those natives whose genius determines them that way, and not to agriculture, (of which nature will always provide some in spite of all contrary incitements and encouragements) things be brought to a proper level. Now it is rare to find any considerable supply from foreigners for agriculture, especially in a country so little inviting as Scotland. Agriculture is generally kept among the natives, after a country is in any measure settled. Manufactures are generally the same, whatever country the manufacturer work in, but, so is not agriculture. A watch maker has the same work in making a watch, whether in London, Paris, or Edinburgh, but so would not a farmer in cultivating a field in France, England, or Scotland, at least in many provinces of these kingdoms. Hence then follows, that in order to improve the produce of Scotland, every possible encouragement should be given to the natives to employ their stock and industry in agriculture, and that every obstacle to their doing so should be removed, and that tho' the great strength of the people be drawn  
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this way, it will promote and not discourage manufactures, and very quickly encrease the number of the people, by the natives being induced to settle at home, by thus preventing unnatural emigrations, and by drawing in foreigners to settle among us. It remains to enquire, whether this method be what is presently prosecuted, in order to improve our country or not. We find the natives generally disposed of in the following manner,

I. Landed gentlemen: much as to improvement of land depends on them, and they are under many ties both of duty and interest, to give much more attention to this in their respective estates, than is commonly done. Too many think they have nothing else to do with their lands, but to gather in the rents (if this be not committed to a factor) and to spend them, being either little acquainted with the circumstances of their tennantry and estates, or not making any use of that knowledge if they have attained to it. Tho' it is feared, there may be some, whom their tennants may have reason to wish not to have been so well acquainted with their circumstances as they are. But a gentleman, who views this matter in a proper light, must be sensible, that a duty to God, his country and his own family, results from his having the property of so much land vested in him by the laws of the community, for the discharge of which, he is so handsomely rewarded by the yearly profits and the security of his property. Land-  
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ed gentlemen when employed in other stations in the society, cannot be expected to attend so minutely to the administration of their estates, as otherways would be incumbent on them; yet there are few situations that will not admit of their giving some attention this way. But, gentlemen not distracted by the discharge of other trusts, must be quite inexcusable if they attend not to this, to which interest as well as duty so visibly tends to incite them. Some no doubt there are, who merit greatly of their native country by their conduct as landed gentlemen. But in general it is evident, that Scotland at present reaps not that benefit, which might be expected as to its improvement in the produce of land, from those gentlemen who ought both from duty and interest to be the life and spirit of the whole. Yet, in any other view no country affords a set of men more eminent for good sense and many valuable accomplishments, than the landed gentlemen of Scotland generally are at present, and have been formerly.

2. Such of the learned professions as are settled in Scotland, and not comprehended in the former class. The number of those employed in learned professions in Scotland, is commonly reckoned as moderate as in any country. They indeed appear not to be numerous, in respect of the swarms of them that are to be found in other nations; yet it may be doubted whether or not, taking all the professions together, they be not fully

fully numerous in proportion to the number of inhabitants. The number thus employed in England will be admitted so to be. The inhabitants of England may be about five times those in Scotland. It is not clear that five times the present number of those employed in learned professions in Scotland would be very much inferior to the present number of such in England. These may be very serviceable to advance the improvement of their country; and certainly are so, while they promote virtue and sound principles, good order, and the security of property, and the health and vigour of the body. Yet all this might be done very consistently tho' each moreover superintended a small farm. Tho' the lawyer, in the vacation in order to relax from the toils of the session, now and then retired to the cultivation of some acres in the country, admitting that in session time none could be spared to that occupation. Tho' the physician should, in very healthful seasons, when his great hurry can be no excuse, endeavour to raise wholesome food in order to preserve health, as well as cultivate herbs necessary to cure diseases, and make such experiments as his skill in chymistry and botany best enable him to do for improving manures and adapting plants to proper soils; for tho' a dunghill cannot just be weighed out in scruples and grains, and a plough cannot be yoked in an earth-pot, \* yet experiments with these,

\* Vid. Dr. Hume's Experiments.

tho' not so much in form, will be as much depended on by a farmer.

And lastly, tho' the clergyman who endeavours to be eminent for promoting virtue and piety, should, as subservient to these, be as eminent likewise in showing an example of industry in the exact cultivation of that portion of ground which the law allows him. Let none think that some attendance on this as a relaxation from the duties of their station, is inconsistent with the character of a pious diligent clergyman. St. Paul found time to do the work of an apostle and to work with his hands. The truth is, the portion of land allotted is generally too large for hand culture, and too small to bear the expence of horses and servants. But tho' a greater proportion of their income cannot be had in land, in order to be worth this expence, yet more may be rented, and a minister might superintend it with much greater propriety at leisure hours, than in sauntering, or idle amusements, and more for his health, than in too much reading and study. And the same too is the case as to the other learned professions. Nay, as every Mussulman is obliged by himself or a deputy to make one pilgrimage to Mecca, it could be no great hardship to oblige every Scotman employed in the learned professions once in his life, either by himself or a deputy to gain one acre of ground, formerly uncultivated, to his country, as a pilgrimage of gratitude to the society that fed them with a pro-

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duce for which they did not toil. Much might have been thus gained in the times of popery, and not much less, in proportion to the time, since the reformation. For tho' the number of ecclesiastics be diminished, law and physick may keep things on a par.

3. Those educated to learned professions who go abroad. This class of emigrants from Scotland is very numerous. Learned education is very cheap in Scotland so that many of our countrymen of the lowest ranks can attain to it. Being much more numerous than their country has occasion for, they are consequently lost to it, and not only England and the British Plantations swarm with them, but most countries of the world have Scotsmen of these professions among them. Many of them indeed are lost to the world, as well as their country, are exposed to hazards and calamities and sickness in foreign climes, perish for want, or are driven to ill shifts. They cannot dig, to beg, they are ashamed.

4. Merchants and traders. These, in a fair way that settle at home, are not perhaps greatly beyond the proportion that the present number of inhabitants in Scotland might admit of. But there are great numbers of smugglers, pedlars, &c. that on the whole are rather pernicious than useful to their country. Besides there are yearly much greater numbers of young men educated to be merchants clerks, accomptants, shop keepers and other such occupations about trade, than

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can possibly be employed at home, and of consequence, many useful hands are lost to their country in this way.

5. Those employed in manufactures and handicrafts. These who are employed at home, like the fair traders, are not perhaps greatly beyond proportion. Yet many more may be educated to these occupations than can be employed at home, when there is an easy way of disposing of them abroad, as is in fact the case. Hence the numerous emigrations of tradesmen and manufacturers to our foreign Plantations, who very wisely encourage their natives to apply their strength and stock to the cultivation of the country, and trust as much to importations of tradesmen and manufacturers from us, as to that of negroes from Guinea for performing the several kinds of labour in the fields, and have their traders at work to pick them up accordingly. If all the children of manufacturers and mechanics settled at home in the occupations of their fathers, they would soon become very numerous. The greater part however are so educated; and many finding it impossible to be employed at home, naturally grasp at the first opportunity or temptation of going abroad. Their children, no doubt sometimes follow other occupations, and become sailors, soldiers, servants, &c. but it is very rare to find any of them applying to agriculture. Proper encouragements, and removing obstacles might induce many of this class to take  
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the employment of agriculture, without hurting in the least the proportion of handy-craftsmen and manufacturers employed at home, tho, it might that of emigrants.\*

6 Those who employ their stock and labour in agriculture. It will be evident on a review of the above and following classes, that these bear but a small proportion to the other inhabitants, and less to the extent of country to be cultivated. Let them be reckoned however no less than one third of the whole families in Scotland, or 83,333 families. Let each of these families furnish two persons, servants included, for actual labour, and the whole number will amount to 166,666, to cultivate 12,160,000 acres, or above 78 acres to be cultivated by every one individual. But as the children of farmers and labourers generally would incline to follow the same professions, it may seem surprizing that this class does not increase so as to come to bear some higher proportion in the community, and to be more equal to the work they have to do. Nevertheless it is a  
fact

\* There are many considerations that might satisfy an attentive observer of the truth of what is said (Numbers of Mankind p. 151.) that in Scotland "our agriculture has not of late kept pace with our manufactures". The consequence would seem to be, that even the numbers of manufacturers that are settled at home, are beyond the proportion which they ought to be at present, if a just proportion were employed in agriculture. But without insisting on a point about which all may not be satisfied, there can be little doubt of the impropriety of educating manufacturers in order to their deserting their native country.

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fact, that by some mismanagement or other, notwithstanding it is so long since Scotland has been inhabited, they do not at this day exceed that number. At present, whatever might naturally be the inclination of the children of farmers and labourers, yet, so it is that no more of them settle at home in that way than barely to keep up the old stock, and while every class is acquiring from them, they acquire from few or none. Many of their children are educated to trades and manufactures and are carried off the country; many of them aim at the learned professions, and consequently soon disappear. The army, navy, and sea service in general, gain much from this class, and not a few are employed as gentlemen's servants. On the whole it is rather a surprize that there are so many, than that there are so few in Scotland employed in agriculture, considering what drains there are yearly from among them.

7. Those employed at sea and in fisheries. These last are perhaps as much below what they ought to be, as the cultivators of the ground. The former are not only in proportion to the trade, which they ought to be, but many are over and above employed in the trade of England, and other countries, usefully no doubt to them who enjoy the profits, but unprofitably to Scotland.

8. The army and gentlemen's servants. Scotland evidently feeds the army beyond its proportion. Ten thousand sturdy fellows taken from country labour

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labour beyond what is due proportionally for the publick support, is no trifling article of loss to Scotland. Servants for use must be furnished, and the Scots have not many for show. 'Tis a pity what they have, are not all French. A tax has been proposed to be laid on French valets, footmen, &c. They ought rather to be taxed that take honest Britons to debauch in such stations, for rarely are they ever after found good for any thing. Now employing only French would be an artifice to ruin our enemies, by carrying off and debauching their people, under pretence of employing them, while our own are left to virtue and honest industry.

9. The swarms of all classes that yearly emigrate without being educated to any particular business, but, in order, as it is said, to push their fortune.

10. The only class that are little tempted, and have less inclination to emigrate, viz. cards, sturdy beggars, &c. Fletcher of Salton computes these at 100,000 and there seems to be little ground at present to debate his calculation.

From this survey it must appear, that if the proper means of improving Scotland be, to apply the chief strength and stock of the people to agriculture, it is not much in the way of improvement at present; and never likely to be so while the greater part of the youth are tempted to leave their native country, by being educated in professions, crafts, and occupations which would

would be overstocked in Scotland if they continued in it, so that they must either starve or emigrate; while their native country, the right cultivation of which would amply reward their toil, is lying barren and desart for want of people to settle on it. Trade, manufactures, and handicrafts should be cherished by us, so far only as we reap benefit by them, but not merely to send off colonies, to keep the mother country ever poor and beggarly. They cannot be forced, but in a very small degree, beyond the proportion of agriculture, as many years experience may have satisfied us, and many a vain effort to push them to an equality with our neighbours, who better attend to the cultivation of their country. Let agriculture keep pace, and instead of sending off our craftsmen and manufacturers, they will flock in to us. Good government, good laws, security of property and plenty of good wholesome food, with free navigation, all which might be enjoyed in Scotland, would draw craftsmen, and manufacturers to Nova Zembla; and without all these, they'll not remain in the finest climate and richest soil. It is not however in the least insinuated that our handicrafts and manufactories should meet with any discouragement, far from it; only that we leave things to their free natural course, let every obstacle to settling as farmers and labourers be removed, and as the want at present is evidently of this class, let the chief encouragement be given to

to such settlers, so as not to hurt our home handicrafts and manufactures, but to divert if possible some of the yearly emigrants who do these no service, from roaming abroad, by educating them early in agriculture and encouraging them to settle in that way\*. There is a natural propensity generally in children to follow the occupations of their fathers, especially among farmers and ground labourers, and if any unnatural obstacles to their settling in this way were removed, this alone, without much other encouragement, might prevent in a great measure, the drain from that useful class; and as they are the most prolific of any, without attempting to draw off the descendants of other professions, would soon make a great alteration. Emigrations from that class being thus prevented in some measure, they would increase fast; as they multiplied, so would the produce by their labour and industry, so would the employment at home for handicraftsmen and manufacturers, and so would the consequent

\* As one cause that the Northern part of Britain is not fully peopled, the following is assigned (Numbers of Mankind p. 149.)  
 "Many of our youth leave the country, and go abroad to push their fortunes, because, thro' some defect in our policy, they either cannot have business at home, or cannot raise such fortunes as will satisfy their ambition." And of Europe in general, (p. 96.)  
 "Indeed one can scarce regard it but as a secret fascination, that so many Europeans go in quest of distant seats in America, while the lands in Europe are so poorly cultivated, and with a proper policy might plentifully maintain a much greater number of people."

sequent plenty encourage still more of these to settle here in order to work for export.

It may be objected to this, that if ever any thing is effected to improve Scotland, by preventing the yearly emigrations of the people, and employing more hands in agriculture, this must be done at the expence of the British colonies, who gain the people that we lose; and that a Scotfman settled there, yields a greater profit to Britain than if he were at home.

In answer to this, it may be observed, that the colonies do not in fact gain all that we lose. Many Scotfmen are scattered all over the world, and from the natural attachment to the colonies, these would lose less, by keeping back any part of the usual number of emigrants, than other nations whom we are under no tie to supply with people. Besides, when all is done, a number proportioned to the inhabitants of the mother country, will always be found of pushing, aspiring spirits, desirous to shift the scene and to try their fortunes abroad. Pride, and imaginary rank, which creates imaginary wants, will also send many from home, either to improve their fortunes, or to submit in a foreign country to a condition of life in which they could not bear to be seen at home. These and other things founded in human nature, and wisely appointed or permitted, by the Creator, for keeping up a communication, circulating improvements, and preserving a relation in some degree among the various

various nations in the world, would always secure a reasonable number of emigrants from Scotland, whatever wise regulations were established, consistent with liberty, for keeping the people at home. This could never be effected by all that is here proposed, tho' more perfectly executed than there is reason to hope it ever will be; as unnatural emigrations to the hurt of the mother country is all that would thereby, be in some measure prevented. If the numbers at home were thus encreased, so would also the number of emigrants proportionably, according to the natural dispositions of mankind, till at length a number might be afforded equal or superiour to the present, without any hurt to the society.

Further. As to the profit derived to the mother country, from its colonies, it is acknowledged to be fact as to England, where there are numbers left capable of reaping immense profit not only from their own emigrants but from ours also. Now as the saying is, *It is well in the hall, when beards wag all*, and the profit on the whole would be greater if all the provinces of the mother country were in a situation to enjoy it, than when all that is raised is confined to some particular provinces. But it is saying little to Scotland in order to induce them to send off their natives; that some provinces of England would be thereby enriched and fertilized, and Scotland continue a desert. No doubt, better employ them so, than to the advantage of any other

other country, except their native country. But this always deserves the first regard, and the whole body is in the most thriving way, when none of its members are starved. Scotland indeed derives some advantages from the colonies, even as things are. Considerable profits are raised from the West country manufactures which are there consumed. Why has not this spread further? It is plain that want and penury, arising from an ill cultivated country, always checked the progress. Some advantage too is derived from our worthy country men that return from the colonies, to enrich in so far, their native country with the fruit of their labours. These are but few, however, in comparison of the numbers entirely lost to their country; and their stock at return is but a trifle in comparison of the profits made some where or other, by their consumpt while abroad.

## S E C T. IV.

*Of the great Extent of Farms throughout Scotland.*

SCOTLAND has been so long in a situation which obliged great numbers of the people annually to leave their native country, that a wandering disposition is generally ascribed to our countrymen, as a part of the national character. But there is no real foundation for supposing Scotsmen of such a roving temper. No people love their native country better, none will take

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up with poorer circumstances at home, and none, when compelled to leave their native country, discover more eagerness to return how soon their circumstances admit of it, than Scotsmen. They indeed know how to yield to necessity with a better grace, and go abroad with more spirit and resolution than most other people, but, for the most part it is necessity, either real, or imaginary, that sends them away in any such numbers as thereby to hurt their mother country. It is certain that before the union both internal violence and penury compelled many to go from home. The fatal blow to arbitrary government and oppression of the people by their superiors, was given at the revolution; but the salutary effects diffused themselves only gradually thro' the kingdom, and were not felt so sensibly till after the union, and perhaps not yet completely in many counties. But as internal violence ceased, the way to the British colonies opened apace, and became a very powerful external solicitation. The natural love of home would however have so far weighed against this temptation, as to have prevented hurtful and unnatural emigrations, if penury had not continued at home to turn the scale against our native country. Tho, the people had stayed at home and been willing to apply their stock and labour to the cultivation of the country, there was no access for them to do so. Farms were, and continue to be of such large extents, that farmers, few as they are, appear rather



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rather to be too numerous for the leases, and accordingly are obliged to roup above each other, in order to get access to a farm, till most of the little money they had, and which ought to have been laid out in improving it, is spent before they can enter with it. Their circumstances at any rate being poor, they cannot possibly after this, afford to hire and pay a sufficient number of labourers to cultivate such large extents when they get them. It is impossible to retain at home a greater number of farmers and labourers than the present, while tacks continue of such large dimensions, because they must starve for want of possessions and employment. What remains then for all others to do, who might also if they could have got access, been thus employed, but to go abroad in some shape or other, to prevent starving at home? A considerable push has been made since the union, to reap some benefit from the colonies by manufactures, and some little has been made, but it stops and stagnates, and makes no progress, because their coadjutor agriculture, is injudiciously held in these shackles, and clogged too with other lesser impediments. The people show their capacity for manufactures and handicrafts, and great numbers yearly learn such occupations, the more no doubt, that so few can be admitted to be farmers and labourers. Nevertheless the mother country is too weak in this state, to reap the benefit of their industry, and many of them must yearly go abroad to find employment

*On the chief OBSTACLES, &c.* 47

employment and sustenance. In this view of the case then, the present great extent of farms in Scotland, tho it were no otherways pernicious, as it will be shown to be in many respects, is one obstacle which alone is sufficient to impede the improvement and encrease of the produce of lands, and consequently every other advantage to our country that is connected with that increase. But to make this the better appear, it may be proper to enquire more particularly into the ordinary extent of farms and circumstances of farmers, in Scotland.

There is reason to believe, as above observed, that of the 250,000 families presently in Scotland, there cannot well be above one third, or, 83,333, ascribed to those any way employed in the cultivation of the ground; and that two persons out of each family being thus employed, there would consequently be in all, 166,666 persons some how or other employed in cultivating the ground. These may be divided into three classes, viz. farmers or principal tacksmen, cottagers, or cotters, being married men, who rent houses and small parcels of land from farmers, and employ themselves more or less either as fixt servants, or day labourers in cultivating the ground; and, lastly, unmarried lads that hire as servants to farmers. One half of the whole or, 83,333, must belong to the two classes of farmers, and cotters, because there are so many families, and every farmer and cotter, is a head of a family; and  
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the other half consequently must be unmarried servants. The two former classes cannot be separated from each other with such precision. It would seem probable that the cotters hardly make one third of the conjunct number, so that the farmers may be reckoned about 55000, and the cotters consequently at 28,333. This number of farmers appears at least not to be under the fact, as it makes about 59 to a parish at an average. If then the whole number of farmers or principal tacksmen that occupy 12,160,000 acres, be not above 55000, it follows that the extent occupied by each, of cultivated and uncultivated ground, at an average, cannot be under 221 acres. It may seem surprising to one that views the country overly and sees at least three or four families, commonly called cotters, living on every farm that is above the denomination of a croft, that the cotters should nevertheless be reckoned inferiour in number to the farmers, and it may be imagined consequently, that however extensive farms may be, those who labour about them, one way or other, exceed what is represented. In order to obviate this, let it be observed, that tho' there be the number of families mentioned, generally residing on each farm, yet they are not all such as give any share of labour to cultivate the ground, as will appear when we consider the classes of which they usually consist, as,

1. The old and infirm of both sexes who are past labour, and are entitled to a bield in their old age.

2. Elderly

2. Elderly women, who maintain themselves by spinning, knitting stockings and the like, when they are become too weak for service. These too are well entitled to a receptacle.

3. Sturdy beggars, a nuisance to society.

4. Those employed in handicrafts necessary for the country, and some manufacturers.

5. Country-biggings builders, as they are called, who are also sometimes profitably employed in cultivating the ground. But the absurd way of building country houses in many counties, takes up the greatest part of their time in that occupation.

6. Those who are employed part of their time in destroying ground, that is, in casting fail, divot, turf, peats, &c. and part in cultivating it, either as day labourers or servants.

Now, as of the six classes of cottars that live under farmers, only the two last, and these but in part, can be said to be employed in cultivating ground, and as the lesser farmers, called crofters, have commonly no cottars at all under them, it is very plain that there are not near so many cottars employed in cultivating the ground, as there are farmers, and probably no greater proportion than is above stated.

But further, it may be imagined that the extent of farms of the kind that we reckoned cultivated, would be but moderate if they were estimated by themselves and not blended with the great extent of the uncultivated, as in the above

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estimate, where the medium extent only of both together comes out to be so large as 221 acres. There is no doubt but the medium extent of the cultivated, if it could be separated from the other, would appear much less, tho' perhaps not so much as is imagined. Yet admitting it came within bounds, the consequence only would be, that there may be hope of introducing some better husbandry into that class, where the dimensions are more moderate, but the case of the other would be still so much the more desperate. But in fact, tho' it indeed must be only a very vague estimate that can be formed separately, yet so far as appears, if they were separately estimated, the cultivated farms would turn out to be of far too great extent for farmers, in the circumstances of most in Scotland, to do any good with them. For,

As to the uncultivated class, tho' in large contiguous tracts, it chiefly obtains in the highlands, yet much of the same kind is also scattered up and down almost every where thro' the kingdom, as appendages to the cultivated farms. In the highlands, exclusive of the islands, there are betwixt 90 and 100 parishes. But, as in these there are frequently large well cultivated tracts to be met with, and sometimes whole parishes that deserve better to be reckoned among the cultivated, than many in the lowlands that are usually so estimated, it would seem reasonable not to reckon above 70 highland parishes in the uncultivated

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cultivated class. So far as can be judged of their ordinary extent, from travelling thro' a few of them, and some enquiry about the length and breadth of some others, they appear at a medium to be about 14 miles long and seven broad, or of such a breadth and length as yields about 98 or 100 miles square. The whole uncultivated extent in this part of the country would at this rate amount to about, 4,380,396 acres, and there would remain, 2,279,604 acres of the same kind, scattered thro' the kingdom as appendages to the cultivated farms. Highland parishes, notwithstanding their great extent, do not contain so many inhabitants at an average, as the lowland parishes do, being generally not above 1000, or 1100, that is, about 172 families. The farmers however, in the wild highlands, bear a much greater proportion to the other professions found there, as gentry, tradesmen, thieves, \* beggars,

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&amp;c.

\* The class here alluded to, by the attention of the government to the circumstances of the highlands, is now in a great measure suppressed, and they are become obedient to laws, like other subjects. They used to carry off the cattle from the neighbouring lowlands, and justified their doing so, from ridiculous notions of preserving the property of their ancestors, just as the natives of America invade the colonies, to preserve their right to their hunting grounds. This idle whim, was agreeable to the pride of the lower people, and their genius for excursions, and fostered by their different language and garb. The taking away of these distinctions therefore merited the attention of the legislator on more accounts than one. Nevertheless it were much more desirable to see this brought about, by promoting a greater intercourse betwixt them and their fellow subjects, than by penalties. This seems at present to be in a fair way of being accomplished.

&c. than farmers throughout the kingdom, do to all other ranks in the nation. The 55000 families of farmers, are hardly one fourth of the whole families in the kingdom, nevertheless such as are in the highlands may be reckoned one half of the whole families there, or about 86 in every parish. This makes the whole number in the large uncultivated tracts amount to about 6000 and their farms at an average, to no less than 730 acres, or about one and a sixth miles square.

If the farmers in the uncultivated be 6000, there remain 49000 to occupy 5,500,000 acres of what is reckoned cultivated ground, which makes each farm contain at a medium 112 acres, besides a share of 2,279,604 acres of uncultivated, or 46 acres of this kind by way of appendage. In all, no less than 158 acres at an average to every cultivated farm.

But it may be further urged, that as this class comprehends the better sort of farms managed in the way of grass farms, as well as grain farms, and as the former may be profitably managed tho' of greater extent than the latter, and in fact are commonly more extensive; if these were separated, grain farms would turn out not to be so very immoderate and disproportioned to the ability of the farmer.

It is answered, that no doubt, some abatement ought to be made from the extent of grain farms on this account, but that nevertheless vastly too great extents for the ability of the farmer would remain.

remain. There appears no way indeed for judging with certainty, what proportion the number or extent of the one bears to the other. But, let it be as much as possibly can be demanded, let the number of such grass farms be 10,000 or above one fifth of the whole. Let their medium extent of cultivated ground be 200 acres, or near the double of both when conjoined. Yet still there will remain about 90 acres of cultivated to each grain farm, and supposing only 30 acres of uncultivated, a much greater share of this too being allotted to the grass farms, and every grain farm will consist, after all these concessions, at an average, of no less than 120 acres.

Whether from what is said above, there be reason to conclude that grain farms may in general throughout the kingdom be estimated at so great an extent, is submitted. But in Aberdeenshire it is certain they commonly hold out to that extent. A midling farm there generally consists of ground divided as follows viz.

	<i>Acres</i>
Infield, or land still in bear and oats, and dunged every third year,	24
Outfield, kept half ley, half oats, and toathed every 10th year, —	40
Faughs, kept half ley, half oats, but never dunged or toathed, —	10
Of other land, according to the situation of the farm, either	
laighs (low wet grounds ploughed only in dry seasons) haughs	
(some times overflowed by rivers and brooks) meadows, brunt	
land (mossy ground, manured by burning its surface) pasture	16
grounds, destroyed in fail, divot &c. or of some other of these	
kinds.	
Of moor, hill &c. reckoned barren and treated accordingly, —	30
at least.	
Total —	120

Further. Such farms in Aberdeen-shire pay commonly about 300 merks, or 17 *l.* sterl. of yearly rent; consequently six of them would make an estate of 100 *l.* sterl. yearly, such an estate therefore would comprehend 540 acres of arable and best pasture, and 180 acres reckoned barren moor, or uncultivated, in all 720 acres, not much above one square mile, which it will be admitted is not above the ordinary extent of such estates, and consequently 120 acres is not above the usual extent of grain farms. On the whole it seems at least probable, that farms in the uncultivated part of Scotland consist at an average, of about 730 acres; that in the cultivated they consist of 112 acres of that kind of ground, with an appendage of about 46 acres of uncultivated, in all 158 acres; and that, separating the better sort of grass farms comprehended in this class, from the grain farms, the latter are not under 90 acres of cultivated and 30 acres of barren, in all 120 acres at an average.

It will be readily acknowledged that farmers are not to be found with stocks sufficient for such great extents as 730 acres tho' of tolerable easy cultivation, but far less to bring that extent of Scots ground from a state of nature, to a state of cultivation, and consequently that while such farms are of such vast extents, they must forever  
continue

continue barren deserts, as they are at this day\*.

It is very common however in England to find farmers of stocks sufficient to manage as large extents as the grain farms are stated at; and it cannot be denied but that some in Scotland have succeeded very well with farms of no less extent, and if the generality of farmers have stocks sufficient for this, it must be owned to be their mismanagement, and not the great extent of this class of farms, that keeps them for the most part in a way unprofitable both to the society in general, and to the farmers in particular. But if they be not commonly in circumstances sufficient to enable them to cultivate such large farms, this is enough to render any important improvement utterly impracticable among this class of farms also, and on the whole, poverty and depopulation must be the consequence thro' all Scotland, and it must continue to be so, while farms are so large and tenants so poor. The circumstances  
of

\* It is observed, and on the main probably with great justice, (Numbers of Mankind p. 157.) "That it is not by tillage chiefly, that the greatest part of the highlands can be fully cultivated &c." And, that they ought to be improved chiefly for pasture" and "to be divided into well disposed enclosures for this end." It is unquestionably an advantage to any country to be fitted by nature for various, useful purposes. Nevertheless, if tillage should be judged a desirable culture, there seems to be no reason to conclude that the greater part of the highlands may not be very capable of it; at least the country being mountainous, is certainly no insuperable obstacle, since so much of the mountainous country of "Switzerland is under the best agriculture in Europe." Vid. Appendix to Numbers of Mankind p. 218, 269.

of farmers of this most promising class, as being of least extensive farms shall therefore be next examined.

SECT. V.

Of the poor Circumstances of Farmers, and necessity of reducing, the great Extent of Farms.

IT is not pretended to give here a view of the circumstances of farmers in any other part of the kingdom, but in Aberdeenshire and that neighbourhood. Whether or not they are more favourable in general throughout the nation is submitted to those who have better access to determine, but several circumstances render it presumable they are not.

There are a very few gentlemen's sons with better stocks than the common, that apply themselves to agriculture in this part of the kingdom, but these bear so small a proportion to the whole, that they merit no consideration in a review\*. The ordinary farmers and their stocks may be reduced to these three classes.

1. The

\* The ill cultivation of our lands, is very justly, said (Numbers of Mankind, p. 150.) to be "not a little owing to a want of inclination for agriculture, and even to a contempt of it in many of the richer sort. This puts them upon educating their younger sons, either to some of the liberal professions, or to the army, or mercantize, or some of the more genteel mechanic employments, but seldom or never to agriculture. It is true of late a better spirit has arisen for improving lands, as well as manufactures; yet it must be owned our schemes are still very defective, and agriculture has never been sufficiently encouraged."

1. The sons of substantial farmers, that is, of such as may leave all the stocking and last year's produce of the farm free behind them to their children, which may commonly in good farms, amount to 200 l. sterl. Supposing this stock to be divided one with another among three children, this makes about 66 l. sterl. each. Such of these as get farms may further be supposed to make to the value of 30 l. sterl. by their wives, or to be worth in all about 100 l. sterl. at their setting up.

2. The sons of less substantial farmers, who by inheritance and marriage, may be worth 50 l. sterl.

3. Sons of the poorer farmers, cottars, and others, who by inheritance, marriage, service, or any how may have got about 20 l. sterl. each.

Out of these three classes are such as get access to farms, whether greater or less, generally composed, and the midling stock falls of course to be applicable to the midling farm. That is, those that occupy farms of about 120 acres extent generally begin with 50 l. sterl. Such persons, indeed commonly find credit for about as much more in the country, otherwise it were impossible for them to stock, even in a poor way, so large a farm, and support till their first crop comes in. Thus their stock in money and credit at entry to a farm of 120 acres may be reckoned about 100 l. the common interest of which yearly, is not one shilling for every acre to be cul-

H tivated.

tivated. But, whatever the interest yearly to be laid out in cultivating such a farm may amount to, when the stock is laid out on a farm, every one that is in the least acquainted with stocking a farm must be sensible, that tho' all the ground were in heart and subdued, three times that sum would be requisite to stock profitably so large a farm. If then 100 l. be not above one third of the stock requisite for such an extent of ground in its best state, far less can it be sufficient to render that part of it which is wild capable of culture, and to enrich the remainder, which, tho' cultivated, is poor, foul and wasted.

It is indeed owned that money laid out in stock for farming, affords generally more than the interest of it at five *per cent.* to be yearly laid out in cultivating the farm. But when the stock is greatly below what is requisite, the yearly produce will be proportionably below what is necessary for the annual cultivation, and perhaps not greatly exceed the common interest. In the present case, what is actually laid out in the yearly cultivation may be thus estimated.

Suppose the farm to consist of the usual kinds of ground as in p. 53. That every acre is a boll sowing of grain. The kinds used, one third of infield in bear, the remainder of infield and best crofts of outfield in great oats, not very clean, and all the other sowing in degenerate oats, called small, hairy corn. Suppose six bolls of infield at 11 s. 8 d. rent for the boll sowing, set to

to three or four cottars. One half of outfield and faughs ley as usual, and as laighs, and such like species of arable, can only be ploughed at certain seasons, suppose about one half of them sown, and thus, that all of every species actually sown by the farmer amounts yearly to 50 bolls. In estimating the whole produce of Scotland, all was allowed to be equal to so many bolls of the best oatmeal, as there were bolls of grain, because of considerable quantities of better sort of grain, which exceed that value that were included in it. But, in the district now in view, the case differs, and a few poultry bolls of bear that are commonly in the produce, will not ballance the far greater quantity of coarse oats that will not yield above half a boll of meal for a boll of grain. Let the produce be two and three fourths return, as formerly, and it amounts to 137 bolls and one half, or deducing seed, to 87 and one half bolls. Deduce one fourth for the bad quality of the oats, to bring it to meal, and there remains 66 bolls, Suppose all at 10 s. and 6 d. the boll, and the account stands as follows.

Profit of Farm.		l.	s.	d.
Infield 6 bolls at 11 s. 8 d. set to cottars	— — —	3	10	0
Grain produce 66 bolls at 10 s. per boll	— — —	33	00	0
Profits on cattle, &c. suppose	— — —	06	10	0
		—	—	—
		Sum	43	10 0

Expence.

H 2

		Expence	
Interest of 50 l. stock borrowed money	—	02	10 0
Rent	—	17	00 0
Fees to two men servants, milt and sheep herds, and a woman servant	} —	06	00 0
Fees to shearers in harvest	—	03	00 0
Ballance for maintenance of do. and family	—	14	10 0
		<hr/>	
		Sum	43 00 0

There may be very possibly some articles omitted, but these will be fully compensated by articles of expence, not applicable to the cultivation of the farm, as miln moulters, &c. omitted also. Let all the articles of expence, except the two first, be supposed the price of so much labour profitably employed about the farm, and this amounts to 23 l. 10 sterl. Further, let the value of fodder and grass to cattle and horses be also reckoned the price of labour and manure thus laid out. The fodder of 137 and one half boll of grain, at a mark Scots for the fodder of each boll, as commonly valued, amounts to 137 one half mark, or 7 l. 12 s. 2 d. two thirds sterl. and this mantains them for more than three fourths of the year, one fourth of this for such grass as they get for some weeks in summer, makes this article altogether, amount to 9 l. 10 s\*. This with the former

\* It may seem very strange that no higher value is allowed for the grass of 40 acres arable and 50 acres of moor. The truth is, that the value of it for the most part is so little, that it is not easie to know at what to state it. Let any one think what the grass must be on land impoverished with five successive crops of oats, and then, without dung left out to grow grass as it may, and thus treated time

former article makes the whole sum laid out yearly as the price of labour and manure to 120 acres amount to about 33 l. sterl. or little more than a crown the acre. Suppose the ground all in an easie way of cultivation and not wasted, and only 50 acres as above kept in grain; tho' one fourth of it, instead of one third as usual, were only to be dunged, it is plain that the article of dung alone must be nearly equal to the whole sum, except in very favourable situations, in order to get proper returns. Thus every article of labour would be wanting, which would be a still more considerable defect in farms so circumstanced, as the generality of the grain farms are at present, that is, almost wild. So great a defect cannot be thrown on any one article entirely, whether labour or manure, or then nothing could be done, but it is divided betwixt both; so that both labour and manure are greatly pinched, and the return must of course be as much pinched as either, and no possibility of its ever growing better, unless by a miracle, while things continue in this untoward state

out of mind. Hardly can you ever catch it in a way that would hinder your picking needles or pins off the ground. But it may be farther said, be the grass what it will as to quantity, yet in quality it must exceed the value of straw, and therefore ought to have been stated at a higher value than in proportion to it. This is granted, and, as the effect of the superiour quality, milk and some young store are supposed in the account of profits, and surely a high enough value, put on that article. The moor is generally of most value, but is commonly lost by being allotted to sheep which, being quite mismanaged, yield no profit.



state, that is, poor tenants with large farms\*.

To all this there is an obvious objection, that 20 *l.* sterl. being the value of the consumpt of families at an average for food, and those of farmers being rather above than below the medium as to number, and the ballance both for food and cloathing as stated above being so considerably under the medium as 5 *l.* 10 *s.* sterl. it follows that either the produce must be greater than stated, and afford a greater value to be laid out on the farm, or the greater part of farmers must be broke, because they must yearly be fed, with

part  
\* Country farmers are little sensible of the expence of manures, because they use them in such small unprofitable quantities, and pay not out money *directly* for procuring, preparing, and laying out what they use, and thus from a false notion of cheapness they depend entirely on what manure they can procure for their produce. *E. G.* When a grain farmer is buying a score of sheep, he does not advert that all the interest of the money, and commonly a good part of the principal is paid for their dung, because in fact most grain farmers make nothing else of their sheep, their flocks instead of encreasing, generally needing frequent supplies. The reason is that being considered only as a by business, they are neglected; and being cotted, housed, and folded for the sake of their dung, and confined all summer in their range, for preserving the growing corns, they both rot and starve. In proper sheep rooms these articles are despised and the sheep are the chief object of attention. Some gentlemen about Aberdeen that hire or buy every article as they need it, computed that in order to dung their richest ground every fourth year with that rich compost of street dung which needs no expence in preparing, costs 2 *l.* sterl. for every acre. It is evident that such a quantity of equally rich compost could not be collected, prepared and laid out on most country farms for one half more money. Quer. If it be not well worth the highest attention, whether or not the spade and the plough properly used may not in part be successfully depended on, as well as manures by common farmers, and the produce improved without depending so greatly on so expensive an article as dung?

part of the stock, or get credit on it while it continues, which is the same.

In answer to this, it may be observed that many farmers are actually in the situation represented, living on the credit of their stock till the heritor judge it time to take their *herrial*, as it is called, and turn out them and their families to shift for themselves, or till some other suspicious creditor fall upon their effects. Sometimes, in bad seasons, for fear of laying all waste, the heritor must bear with them and allow a bill of arrear to run up, which becomes so much desperate debt. Several are thought to have managed very well, if when they are dead, there be as much left as pays the laird and the country debt. In short; the greater part of farmers must be in as pinched and miserable a way as the fields which they labour. That the greater part do not become actual bankrupts, as many do, is not owing to the farms yielding better than is supposed, but to adventitious circumstances, foreign to the farm, that prevent their breaking in upon their stocks; and of these chiefly at present, to the profits of some manufactures carried on by the females, as spinning, knitting stockings, and the like\*.

Since

\* It may be observed by the by, that it is very preposterous to educate men to such manufactures as are suited for the weaker sex. In Aberdeen-shire, at least in some part of the county, strong lubberly fellows will sit hamming over a fire knitting stockings, by which they may earn 2 *d.* or 3 *d.* a day, which finds them very scanty sustenance, rather than gain 6 *d.* or 8 *d.* a day at the severer labour

## 64 A DISSERTATION

Since the extent of farms is commonly so great, and the circumstances of farmers so poor, must it not evidently follow, that in a country of difficult cultivation like Scotland, and the greatest part of which has never been attempted to be subdued, the produce must be little; the hands, employed in cultivation few; the manufactories, so far as connected with the progress of agriculture, discouraged and not easily to be extended; emigrations beyond the proportion of the inhabitants common; the country mostly desert, in a manner, and uninhabited in respect of its extent; and no possibility while things continue in this situation, as to the extent of farms and circumstances of farmers, of ever producing any considerable alteration to the better? All the fine plans of husbandry may be laid before men in these circumstances, and the reasonableness and utility of them be pointed out, but it is all in vain; you might as well talk to a man tyed to a post, of the advantages of travelling on the road, rather than moving up and down the length of his teather; but if you argued

of digging or trenching. Their being so educated is well meant, in order to secure their being able to do something when strength decays; but being foreign to the labour, to which their strength ought to be applyed, it has a tendency to effeminate and unfit them for it, and they ought rather to be taught things analagous to their chief occupation, as making easy utensils for husbandry, weeding, and the like, to be a resource when strength fails. Would it not also in general be proper rather to educate women to be staymakers, taylors, wigmakers, &c. than strong able bodied men?

## On the chief OBSTACLES, &amp;c. 65

argued never so wisely, he behoved to continue in the same bounds unless you freed him from his chain. There are unquestionably several other impediments, tho' this grand error were corrected. But if this is not amended, the attempt to correct others can little avail. It remains then, that in order to render our native country capable of improvement, either farmers must be found with very great stocks, to afford the necessary expence of labour and manure to the present great extents; or, the present extents must be diminished, and the number of farmers with small stocks on the same extent must be increased; or both must in different situations be admitted, as circumstances may render most convenient. But at any rate the stock and number of hands employed in cultivation (whether the last be as hirelings, or farmers, or both) must be greatly increased from what they are at present. Nevertheless, as the probability of obtaining farmers with very great stocks to settle among us, is not very great, the dividing of the great extents among a great number with small stocks, seems to be the chief thing to be depended on. If 120 acres, which are commonly set at present to one man with 50 *l.* of stock, and 50 *l.* of credit, were set to six men of 20 *l.* of stock each, and 20 *l.* of credit, instead of 100 *l.* in the former case, to be laid out on that extent, there would be in the latter no less than 240 *l.* As it is unquestionably more probable, that six men

66     *A* DISSERTATION  
 with 20 *l.* of stock each may be frequently found, than one man with 120 *l.* it is therefore wiser to depend on the former for improving the country than on the latter. If there were a choice of both, in most situations, the six would be preferable, because every thing may be more successfully executed, and with fewer chances of mistakes by one man in a small extent than in a great. But, whatever may be in this, nothing surely can be more absurd than to expect that a farmer with 50 *l.* of stock, should be able in Scotland, to manage an extent, which in England, requires 500 *l.* of stock, if it is kept in tolerable order.

It is by no means here insinuated that all farms ought to be small. Some farms may admit of less expensive improvement than others, and some farmers may have riches suited to great extents. It would be a loss to society in either case, that any stock or labour which the occupiers can apply, should be dead and useless for want of subjects of sufficient extent to exhaust them. As little is it meant that there should be violent and sudden alterations, which generally produce shocks that a poor country cannot bear. It is only intended, that farms should be of various extents, adapted to the various circumstances of cultivation and ability of farmers. That as in Scotland the generality of the farms are of more difficult cultivation, and the farmers of less abilities than in most other countries, our farms should

should generally be of less extent than in other kingdoms, who in these respects, are more favourably circumstanced. That general and sudden alterations should not be attempted but that a gradual change should be made, greater or less at a time, as particular situations will admit of, and as prudence and discretion may direct. That all encouragement and ready access both to labourers and farmers being given on the one hand, according to the various circumstances in which our country affords them; seducers of the people to emigrate, and the education of so great a number of young men to handicrafts, manufactures, the learned professions, &c. beyond what the country can employ and support, should, on the other hand, so far as is consistent with liberty, be discouraged. But the former must necessarily precede, or at least accompany the latter, otherwise, it would be disabling people to live abroad, and starving them at home.

What may be the most profitable extent to which farms ought generally to be reduced, is a question that time and experience alone can determine. But tho' this were ascertained, there still must be many exceptions in such an infinite variety of situations, of which every gentleman in his own particular interest ought to judge. But in order to manage an estate very profitably, either for the country or the owner, the proprietor must consider, that there is something more incumbent on him than to rouse a tack, and

spend the rent. He must be acquainted with the nature of his estate, with the advantages or difficulties it may enjoy or labour under, from soil, situation or other important considerations. He must understand the various methods of agriculture that in different soils and situations may be admitted. He must be acquainted with the abilities and capacities of his tenants, their difficulties, discouragements and advantages. He must know what labourers may be had in the neighbourhood, and how the children of the people are commonly disposed of. So far as he fails in his attention to, and knowledge of these things, in the same degree will the improvement of his estate generally fall short of what it otherways might be. But in general, he can hardly err greatly in any situation, by having as many farms as he can get tenants; tho' a gentleman ignorant of the above circumstances, may come short, with a great number of tenants, of what one well acquainted with them, may execute with fewer. It may be thought a laborious and difficult task for gentlemen to attend to so many different objects. It is however their duty, tho' it were both. But it may be safely said, that to study the chances of dice, and intricacies of cards, and to submit to the pain and fatigue of drinking, are fully as complicated and laborious, and surely not so innocent or profitable employments, as the other.

SECT.

## S E C T. VI.

*Answer to the Objection from the scarcity of Moss,  
against reducing the great Extent of Farms.  
Considerations on Wood for Fuel.*

**T**H E R E are many objections, that will readily occur against reducing the extent of farms, and encreasing the number of farmers and labourers. The first and most considerable will probably arise from the extraordinary consumption of mosses, which such numbers of families might occasion. Whether coal be in the common course of things exhaustible or not, where it is to be had, at present in plenty, is a question not so easily determined; but that mosses, on which the greater part of Scotland depends for firing, are already in a great measure exhausted, is very obvious. By oeconomy and bringing few families to consume them, the calamity may be postponed for many generations; but by the reverse method many heritors may live, not only to see their tenants pinched, but even to be without a peat to their own fire. Without firing you can have no tenants, what then would some extraordinary profit for a few years avail, when an estate must thereby be rendered a desert ever after?

Whatever weight there may really be in this objection, as to point of reason, it must be owned that there is much as to the management, or rather

rather mismanagement it has been the cause of introducing into many estates; and therefore it deserves full consideration. For, on this account farms have oft been enlarged in order to reduce the number of fires. The number of cottars, the chief nursery of servants and labourers, on the same account hath been restricted. Hence the labourer is forced to leave his native country, being not only checked in his hopes, of settling one day on a croft suited to his ability; but even denied a house in which to lodge a family, while he continued to serve his country as a hireling at hard labour; and thus himself and offspring are lost to the society. Hence a scarcity of servants and labourers to work that pittance for which our poor farmers can afford to pay. The scarcity of any commodity must raise its price in spite of any arbitrary orders to the contrary, that may from time to time be issued by the managers of an ill conducted police. Thus the wages of servants must of course rise to a pitch that yet further incapacitates farmers to do any real service to themselves or their country. It is then on many accounts to be wished that this objection were founded only on imaginary terror, or at least that an easy remedy were applicable. It is hoped that the former will appear in some measure to be the case, and that there needs be no doubt of the latter if gentlemen will in time prepare the remedies which they have in their power for an evil

evil which has created a dread so prejudicial to our country.

1. It is certain that many of the best inhabited places in Scotland, as Carse of Gowry, Mearns, &c. are at such a distance both from peat and coal, that they have but little benefit from either, and that at a very great expence. Yet, they make a shift to do very well, and there is not the least appearance of estates being there deserted for want of firing. The use of fire, except in drying corn, dressing victuals and the like, depends almost entirely on custom. Little will serve for warming the body in the coldest seasons with healthy people, especially labourers, unless bad habits have made much requisite. The corn it self affords good materials for drying it on the kiln, viz. the shilling-fids, as they are called. Scarcity also teaches an œconomy in managing the fire that must be had for necessary occasions, so as to make much less answer than is consumed by those who wallow in plenty. If therefore, instead of restricting the number of families on their estates, and banishing or denying access to useful people, gentlemen would oblige their tennants to better œconomy in the use of fire, they would in some measure answer the end of saving their mosses, prevent misapplying the labour of servants, and horses, in leading useless quantities of fire, and do a service to themselves and society by admitting a greater number of labouring families on their estates.

2. It is acknowledged on all hands that, with the best œconomy, the dreaded evil of mosses wearing out must at length happen, and that so as to be felt in a very considerable degree, perhaps, in the very next generation. What is then to become of so many counties that presently have only turf and peat for fewel? Are they to become deserts? If not some other kinds of fewel must be had to supply the deficiency, and if this can be quickly got, what tho' the mosses were all exhausted in a twelvemonth? If it require time to raise this future supply, why is the present age so negligent of the welfare of their posterity, as to delay setting about it? If they must raise a supply for their posterity at any rate, it is only doing it the more liberally, and the demands of a gradual encrease of people in the mean time, need occasion no terror for want of fewel.

3. Some shrubs of quick growth, as broom, are actually found in many places to answer in a great measure, for the scarcity of other fewel. Broom is further said to have this advantage, that when the ground is enclosed and hained, it grows in the poorest soil, and meliorates it so much, that when the broom is grubed up, after five or six years growth, such poor fields will yield two or three good crops of oats. If this be true, the sowing a constant succession in such poor land would be a double benefit, answering both for fewel and manure. If a gentleman be only disposed

disposed to encrease the number of families on his estate, and circumstances be otherways inviting, he will find many that will take up with a very small share of his mosses, and trust to other methods of getting fewel.

4. Wood is the fewel commonly used thro' the most of Europe, and is certainly the most pleasant and wholesome of any. Considering then the great quantities of waste ground that there are almost on every Scots estate, a great part of which seems to be chiefly intended by nature for the produce of wood; what strait need there be for firing to six times the present number of inhabitants, if gentlemen would only raise wood on such barren ground as may be least susceptible of cultivation?

By the most probable conjectures that could be formed, from such information as could be received on a subject of which, in this place of the world, there has been so little trial, 100 fir-trees of 30 years growth, or of the size usually attained to in that time, would serve a country family, as fewel for one year. If farmers of better account should need 200 such trees, the poorer labourers and cottars may be served with 50 or 60. Now supposing such trees to be standing three yards asunder at a medium, a Scots acre will contain 2050. This, at 100 every year, would serve one family 20 and one half years, or 20 and one half families one year. Therefore

K

31 acres

31 acres in a succession would serve that number of families forever.

This is a simple view of the thing, without considering many other contrivances, that might be fallen upon for perpetuating the necessary stock of wood; and, whether or not in many places there might not be properer kinds of wood raised for the purpose: Birch and ash, when properly cut down, need not to be planted or sown again, but shoot out immediately from the same roots, and several other kinds do the same; it is not so with fir-wood. Circumstances therefore must determine what kind may be fittest. But since fir-wood may so easily answer the purpose, there ought never to be a strait for fire, because it might be raised almost any where, at least poor-ness of soil need be no impediment.

But further, if we should suppose that of the 31 acres, all above 20 years old were yearly weeded, till the 30th year, when the trees are supposed to be brought to three yards of interval; the weedings, of about 10 acres in this state may well be supposed to go half as far for fuel, as the 30 year old wood left on one acre, that is, that such weedings would be fuel for 10 and one fourth families. At this rate the yearly weedings of 10, and the whole wood of one acre 30 year old, would afford firing to 30 and three fourths, families for one year. Consequently 31 acres thus in succession might afford fuel to 31 families

families for ever, or in like manner, one acre to one family.

If a gentleman can sell a fir wood, growing on the worst ground in his estate, so as to bring 4 s. an acre for every year the trees have been growing on it, without any expence in felling, dressing, or carrying them, this must be reckoned a very considerable improvement, as it brings the worst and most difficult ground to a rent above the medium value of what the whole sets at. At this rate, an acre of fir-trees 30 years old, yields 6 l. and 100 acres 600 l. sterl. a price that few gentlemen would refuse, when not troubled so much as to cut or carry a single stick. One acre being allotted, as above, for the constant supply of fuel to each family, this costs the heritor only 4 s. yearly, for every family so provided. No doubt older wood would sell dearer, but so much less of it would serve in proportion to its age.

The value of moss at present is commonly 6 s. 8 d. the spade-darrack, or spade's casting. The poorest family generally needs one. Let the average be under one and a half spade's casting, let it be only 8 s. value, and as things are at present, an heritor that has fir woods can serve his tenants out of them for half the value presently put on mosses. No doubt moss would fall in its value, or rather be of no value at all, if wood were once plenty, and allowed for fuel. Yet, if a gentleman has it in his power to accommodate the necessary number of families out of his woods

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woods, and they will not then cost so much for fewel, as they would now where moss is plenty, the wearing out of moss, is no objection to encreasing the number of farmers and labourers, but only an argument, that a supply of wood for their future accommodation should be forthwith raised, if it be not done already.

But, truly, tho' a gentleman could sell his wood at six times the above price, it still were profitable to give it for fewel, if a sufficient number to cultivate his estate could not be had otherways, as the difference would be like that which is betwixt selling materials unwrought and manufactured. Suppose two farms of 240 acres, restricted, in order to save moss, to two farmers, and eight cottars, and that they may pay with difficulty 40 *l.* sterl. yearly rent. Let the families be tripled, or made 30 in all, in such proportion as to farmers and labourers, as may be judged convenient, this will cost the heritor 30 acres of barren ground in fir wood to maintain them constantly in fewel or 6 *l.* sterl. yearly. Triple the number of labourers being thus brought on the same extent, would easily triple the rent, or bring it to 120 *l.* which is only 10 *s.* an acre, or 80 *l.* sterl. of yearly additional rent, and this made at the expence of the value of 6 *l.* sterl. yearly in wood for fewel. Or, tho' the wood could have been sold at six times that price, *viz.* 36 *l.* sterl. yet the heritor gains 44 *l.* sterl. yearly, by giving it in the above circumstances to his tenants

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nants rather than selling it out of his estate at that monstrous price.

There cannot well be reckoned, even among grain farms, as has been shown, less than 30 acres of barren ground to every middling farm, consisting in all of 120 acres. Allowing six of these farms to make 100 *l.* sterl. yearly, there would consequently be 180 acres of barren ground on such an estate. Suppose as above that the present number of families were to be tripled, or made 15 on each farm or 90 families on the whole estate. One half of the barren ground *viz.* 90 acres would accommodate the whole in wood for fewel, and the remainder might be in wood for sale, or otherways cultivated as the heritor should judge convenient. A gentleman whose estate is mostly arable ought not to expect great profits from the sale of wood, it is enough that he has the necessary accommodations for himself and his tennantry. The sale of large woods must be left to those who are possessed of large tracts, of hills and mountains adapted chiefly to that produce.

Thus it appears that the terror of mosses wearing out is a mere bugbear, as every heritor may have it in his power to accommodate his tenants with fewel, independantly of either mosses or coal pits. If necessity alone will make gentlemen so wise as to provide other supplies, it is a pity that so much moss should be yet remaining as to make that necessity appear any way remote



mote, or rather that the mosses had not been exhausted some generations ago, and all concern about them removed by such other resources being now in plenty and common. The labour of several months to men and horses might now be yearly saved from working about fewel, if that had been the case, and more properly applied to the cultivation of our barren country. Many a sturdy labourer and honest farmer might be settled among us, who, as it is, cannot get access for fear of consuming these precious mosses.

## S E C T VII.

*Objections from alledged Experience, from alledged Necessity of maintaining great Strength of Cattle for Tillage, from alledged Hardships on Tennants answered.*

**B**ESIDES the objection against encreasing the number of farmers and labourers, from the wearing out of mosses, which has been above answered, another may be urged from experience. Some gentlemen have lessened the extent of their farms, but this has not always succeeded. Nay it is doubtful if more rent has not been lost than gained by this method. Bad years must bear specially hard on a number of small tennants, little better than ordinary crofters, perhaps not so good. That such crofters generally follow the same methods of husbandry with greater tennants so far as their farms admit of them; and therefore lit-

tle more has been done in improving the produce by them, than by the greater tennants. To this it is answered.

1. As such divisions have hitherto been oftner the effect of chance than design, it is no wonder, that like other chance things, they should sometimes succeed and sometimes fail.

2. Crofters have no doubt many prejudices and ill customs, as well as greater tennants, to impede the improvement of their farm. There are also other impediments to the thriving of tennants, besides too extensive farms, which flow from heritors. If the farms are suited to the abilities of tennants, good may accrue when these other impediments are removed, tho' little, on account of their subsisting, may have yet appeared from such divisions of farms. But if farms are not divided, tho' the farmer were never so skilful, and every other difficulty removed, little benefit could ever be obtained.

3. Where tennants have stock for their great farms, they will no doubt prosper better and do more good, than tennants who have smaller farms, and stocks still smaller, or less proportioned to the small farms, than those of the other tennants are to the greater. It would therefore be the height of madness to turn out the former to make way for the latter. It is not merely smaller farms (tho' that in general be requisite) but farms proportioned to the tennants abilities that is insisted on. Without, therefore, in the least interfering

interfeering with opulent thriving farmers, who are improving the produce of the farms and their own wealth, many farmers may be found in a very different situation, who ought thankfully to admit of partners to share in their unwieldy extents; and who must then, *ceteris paribus*, succeed better, than when left alone to grapple with difficulties too great for their small abilities to surmount.

4. Sometimes the number of tenants has been increased on a farm without assigning to each a distinct share of it; but outfield, pasture, fauchs, &c. have been left in common. It will be evident on reflection that little good could be expected, when each is not assigned his own share entirely to himself, but is to labour as much for the benefit of his neighbours as for his own. One bad neighbour must ruin the whole.

5. The fact however is apprehended not to be entirely as stated in the objection. But that rather more crofters, in respect of their small number, can stand bad years, than tenants above that denomination, in respect of their greater numbers; and also that the produce has by the crofters been proportionably more improved, at least by such of them as had their farms distinct to themselves. Not to insist on other things, it will be granted, that the produce of infield is better than that of outfield, and the other species of land. But crofters have rarely that distinction

tion and commonly manage all as infield, which is all that is necessary to give it that denomination, the soil being generally much the same in both.

It is hoped that what is above said may answer the most material objections on the part of heritors, and it might be expected that farmers and labourers would be fond of a proposal so evidently calculated for their interest. Nevertheless it is foreseen that this will not be the case, and that if heritors for their own advantage, and that of their native country shall execute such a plan, as far as circumstances will permit, it will not, for some time, meet with approbation from the generality of farmers, who partly from false pride, and partly from custom, are prejudiced in favours of large farms, and have a vast propensity to take them, however ill suited to their circumstances. The pretences they will use, may probably be such as these.

That the ground being of difficult cultivation, great strength of cattle is requisite to plough it, and then there must be a great extent of land, to maintain this great strength of cattle, and to keep them in constant work. This it must be owned is turning the cannon, and demanding a great extent, for a consideration that has been alledged as a main reason for a small extent, viz. the land being generally of difficult cultivation. But the objection proceeds really from pride. The having 12 runts of oxen to pull a clumsy plough, is what, in this part of the world, raises one in

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vulgar estimation to the rank of a great Goodman, and therefore must be had tho' the possessor should be pinched all his life in order to gratify his pride. These being got, a great extent is necessary to maintain them, because the tennant has not ability to improve any of his land so as to bear tolerable crops either of grass or straw for their maintenance; nay for this very reason the degenerate small oats must be sown instead of great oats, because there may be some fodder with the former, in land too much exhausted to grow great oats with straw in any considerable quantity. Thus one blunder introduces another.

The fact must be owned that the land in Scotland, in its present circumstances, is generally of more difficult cultivation than in most other countries, but does it therefore follow that the farmer must attack it with a strength above his ability to manage, or undertake the more of it that this strength may be unprofitably supported? A man would slay more enemies with a weapon he could wield, than with the sword of Goliath. If he got himself encumbered with such a weapon, how would it sound to hear him call for more enemies, because he had got a sword which he could not manage? But such is the case with a farmer that insists for a great farm because he is overburdened with 12 oxen. Remember the old fable of pulling off the horse's tail. So is it with Scots ground. If ever it be effectually subdued, it must be inch by inch, and the more hands the

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the sooner will any considerable progress be made.

Further, in a very small farm, the far greater part of which might be managed with a strength suited to the farmer's ability, there may be some land that would require a stronger plough. Must, therefore, such a great strength be had in order to plough a small part, as would be useless for the rest of the farm, and disable the farmer from managing it properly? If strength could not for such purposes be occasionally increased by a good correspondence among neighbours, which it is imagined might oft be done, would it not be better to manage it some other way than by ploughing, or to let it alone altogether till a proper management of the rest of the farm enable the tennant to grapple with the difficulties with which a small part of it may be encumbered? Besides, in many cases, where the farmer turmoils in vain with his plough, the spade and pick ought to precede it, to render the ground properly arable, as in wet, spouty ground, and land encumbered with stones, and shrubs. Now the yoking of 24 oxen instead of 12 into one plough, will not render the attempt to plough such ground profitable, if the water is not drained off, and the stones and shrubs cleared away. This may surely more probably be accomplished by a considerable number of labourers than by few, and the joint stock of these must be more equal to the necessary expence of bringing it into heart, when rendered

arable than the small stock of one ordinary farmer can possibly be. The cultivation of land under right management becomes easier, but under bad management more difficult. The former may be attained when the tennant has no more than he can profitably manage, but the latter must ever be the case while it is otherways, as is generally visible at this day.

Another objection may possibly be, that if a tennant could hardly live and pay his rent on the whole, far less could he live and pay a greater rent, in proportion, on a part of the same extent.

The fact is the very reverse. For a tennant that has only a farm suited to his ability to manage, can afford to pay more rent for it in proportion, than if he were obliged to pay for a greater extent of ground beyond his ability to manage, and may live better and more comfortably in the former way than with such an unwieldy farm. Perhaps he might be obliged to hold his plough himself, and have fewer servants, not that obey his commands, but that tyrannize over him, and want some yokes of his oxen. This may indeed hurt his pride as a *Scots Goodman*, but will do no hurt either to his health, his peace, or his pocket. If he has stock and skill to manage a great farm, why not? Let him have it. But if he has only ability for a croft, why should he despise the life of a crofter, merely because he has once been called, *Goodman*, and had it in his power

power to impoverish himself and a great extent of ground together? If he is industrious, and meets with no unreasonable hardships from his heritor (to which no wise heritor will subject him) he will recover the money in the one station, which he lost in the other, and do good to his country as well as himself.

But it would be superfluous to mention and answer every trivial objection that may be started either by heritor or tennant. Tho' the plan proposed were attended with some inconveniencies that do not accompany the present method, these must vanish when compared with the great advantages, which heritors, tennants, and the nation in general must reap from its being brought into practice.

S E C T. VIII.

*Some other Impediments to the Improvement of Scotland.*

BESIDES the great impediment to the improvement of Scotland from the generality of farms being too extensive for tennants of small ability to manage profitably, there are several obstacles which more or less take place, and must retard the progress in proportion as they prevail, tho' the other were remedied. Some of the most considerable impediments, tho' perhaps not so commonly veiwed in that light, shall be here pointed out. Some are chiefly owing to the

the faults and follies of tenants, some to those of heritors, and some partly to those of both.

1. The vices to which human nature in all ranks is found to be more or less liable, have a very baneful influence on the temporal as well as spiritual interests of mankind. This is especially visible in agriculture, on which every degree of vice must have a bad effect, either as weakening the body, and unfitting it for labour, wasting the substance, hurting the credit, murdering time, obscuring the judgment, or taking off the attention. Let the tenant think of this, when he is sitting in an alehouse, drinking drams, engaged in squabbles and riots, adulterating his stuff and cheating his neighbour. Let him also consider that the success of his industry depends on the blessing of God, and whether such vices be the way to obtain that blessing; or whether cursing, lying, perjury, and neglect of the duties of religion, be the way to be esteemed of man or blessed of God?

Hence the heritor also may learn that every bad example of vice and irreligion which he sets his tenants, is taking off so much from the improvement of his estate and the advancement of his rent. He may perhaps judge these follies, which are the disgrace of his rank, to be the privilege of his station. But vice may be in the power of any man who is fool-hardy enough to dare to be wicked. It is only the privilege of the great, to be more destructive with their vices than

than the poor wretch can be, because their example is more catching, and the means of gratifying their wickedness more extensive.

2. While leases are made for so short terms, and the occupiers of farms are little better than tenants at will, it is impossible that any considerable improvements can be carried on, whether farms be large or small. The improvement of land is a gradual, expensive and laborious operation, which it never can be expected a farmer will set about, who knows that before he could reap the fruits of his toil and expence, his lease must expire and another very probably enjoy that benefit which ought to have been the reward of his industry.

3. When leases are given of any length, the taking exorbitant fines or grassums, renders this privilege insignificant, by depriving the tenant of that substance which alone could have enabled him to reap any benefit from it. Were it not more judicious for the heritor to oblige the farmer to lay out, what might have been given for grassum, in such improvement as may be found most expedient; and when this shall be taking effect, to receive an additional rent proportionable to the value of the improvement? Thus the heritor might before the end of the lease, put as much money into his pocket as his grassum, by an improved rent, which would also continue after the lease, and the title to a grassum, from the next tenant would be then as good from the circumstances

circumstances of the farm, notwithstanding the increased rent, as it could be from the former tenant before the improvement which enabled him to pay that addition. Thus the heritor, would gain, the farm might gain, and the tenant would at least lose nothing which he would not have lost otherways, and probably would save of that considerably. But if the hands of farmers are emptied by grassums at entry, this is so much sure loss to them, so much sure loss to the produce of the farm, and only a temporary gratification to the avidity of an heritor, at the expence of his own and family's real interest, and of the interest of the publick.

4. The binding tenants, in leases, not only to the few prestations that are a necessary part of the rent, as the delivery of grain, or victual, and the like, but to a number of other burdensome services, which it is impossible for a tenant to perform consistently with the work necessary for the right management of his own farm. Very oft an heritor has idle footmen and other servants, carts and horses, that might be employed consistently with every other duty, about those pieces of work which his tenants must perform, tho' thereby they lose many opportunities of greatly improving their own land. Sometimes he might need an extraordinary aid of carts and horses, but surely the dearest way of purchasing these, is the disabling his tenants to pay their rents, or at least to increase them. Many heritors have farms

farms of their own, not to increase the produce by improving them, and setting a good example of agriculture to their tenants; but to give these very tenants, who have too much of their own to be properly managed, an additional burden by obliging them to manage, or rather, mismanage the laird's farm as they do their own. Since the jurisdiction act, these prestations are in many tacks made so excessive that no tenants can perform them all, nor indeed is it expected. The design with some is only to keep them tenants at will, notwithstanding their leases, as they were while the clauses of *use and wont* were permitted. Yet what is this, but a constant loss to themselves, their families and country, that they may now and then have it in their power to turn a poor wretch out of a sorry tack, by exacting rigorously every article of the prestations? Some gentlemen admit of these clauses merely because they are common, and are incapable of making any such unworthy use of them, any more than those who never adopted them. But these things lay a foundation for grieves, ground officers and such people, to oppress tenants by exactions for their own private behoof, and to tyrannize over the tenantry by having it oft in their power to call whom they please to very severe duty. These badges of slavery, nay, this real servitude to many masters must be a great discouragement to tenants, and what no people will bear that have

spirit and substance to be independant in another country. Slaves may grumble and serve, but they will never improve the country nor the rents. Substantial farmers, would in a few years make an addition to the rents, that would enable heritors to purchase ten-times over such of these relinquished services as they really needed.

5. Allowing all cattle and sheep to strole without herds thro' the fields during winter, that is, for seven months of the year. During all this time there is no property, and none can preserve either sown grass, pease, wheat, turnips, &c. from being destroyed; however necessary these articles may be in a well cultivated farm. Improvement must go on gradually, and be begun perhaps by a few in a neighbourhood. But how can they attempt it, when all around them are ready to devour them? It is an inconceivable inclination that country people have to make something off their neighbour tho' they should lose double of their own, and heritors must compel them to winter-herd, otherways they never will do it, and this must be an immense drawback on every improvement. Enclosing is expensive to poor tenants, tho' as their abilities may permit, it ought to be pushed on. But why should improvements, which they may execute easily and profitably, be in the mean time prevented, by a lawless invasion of their property? Besides no fences are a security against North-country sheep, any more than a fold sometime ago was a security against cer-  
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tain of our countrymen. They are small light and nimble creatures, jump dikes, and break thro' hedges to an admiration, and nothing but herding can restrain them.

6. The obstinacy of common farmers in persisting in improper methods of agriculture, when proper ways are in many instances practicable, even in their present situation, is an obstacle not altogether unjustly complained of. But in reality, more in this respect is to be ascribed to ignorance than obstinacy. For interest, when thoroughly understood, will in time cure obstinacy, and a much greater progress in the cure would by this time have been made, had the utility of the proposed methods been, as to them, properly ascertained; and while that is not the case they may be truly said, as to these points, to be ignorant. Common farmers do not read; and if they did, characters wrote with *pen and ink* are not what they can understand on a subject so interesting, that the bread of their family might be in hazard, if they made the necessary trials, and failed of success. The characters intelligible to them must be wrote with *the plough and the spade*. They must see the event with others before they can judge, for they themselves have nothing to risque; in doubtful, tho' feasible experiments. Hence the usefulness of heritors and of other gentlemen undertaking farms, besides what Pliny alludes to so elegantly, "*Sive honestis manibus omnia letius proveniunt, quoniam et curiosus fiunt*".  
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They can afford to lose on a trial, either of what has been proposed by others, or of what occurs to themselves; and the poor farmer reads their farms as they read books, profits at their expence, and tries a new method with certainty of success. The farmer indeed is oft struck with a further doubt; lest the expence should exceed the return, which would make it unprofitable tho' above the common. The thriving or not thriving of these gentlemen-farmers, cannot clear up that point; because their living depends not on the produce of their farms. But when a poor lad that has served them comes to be set up in a farm, when he practises the same method, and thrives with it, this is demonstration to a common farmer that observes it, and he will immediately become a convert and follow the same course. It is therefore submitted whether, it be not of great consequence to have many such lads, thus properly instructed, settled in convenient farms almost in every district of the country, and whether an heritor that understands his own interest, ought not rather to give such a one some encouragement to take a farm, than receive a grassum for it from one that, instead of cultivating the farm, would ruin it and himself also?

7. Miln-mulders are a real grievance, because they subject the industrious tennant to a real loss, without any benefit resulting from thence either to the heritor or community. The rent paid by the tacksmen of the milns for mulders would cheerfully

fully be paid by farmers; and they are surely better intitled to the overplus than a person who never toiled for it. The necessary work about milns is performed by an under-miller, and the tennants are subjected to a special payment under the name of knaveship, or else what they call a lick of good will, over and above the mulders, as the reward of his service, and rarely does he enjoy the whole. As things are at present, where the sixteenth peck is paid, the millers would generally enjoy one sixteenth of every improvement that shall be made at the labour and expence of other men, merely for paying a small rent to the heritor, which the tennant himself would readily pay. This is a real tax upon industry, and consequently a real discouragement to improvement. The tennant is also subjected to many prestations about milns which needlessly encrease his servitude, as well as avocations from his proper work. The law that admits of valuation of tithes, in order to prevent discouragement to improvement, ought by analogy to be extended to miln-mulders, where they are payable to milns that belong not to the proprietor of the lands. The remedy is obvious when the milns and lands belong to the same heritors. The laws are very favourable to miln-mulders and prestations about milns, because of the difficulties that once subsisted in bringing the people to build and use the present machinery of corn-milns instead of the old hand-milns called quirns, which



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which spoiled the meal. The reason is now ceased, and therefore it is presumed the laws ought not to be so favourably interpreted in these respects; at least there seems to be good reason now to apply to the legislator in order to get them amended.

On the whole, while tacks are so greatly disproportioned to the abilities of tenants, and the above discouragements and impediments subsist, it is impossible for the produce of Scotland to be improved in any considerable degree. But as these shall in time be gradually removed, we may expect to see better husbandry prevailing; more money and more hands employed in subduing our lands and rendering them fertile; and Scotland vying with her neighbour, in the plenty and excellency of her produce, in the number of her people, in the extensiveness of her trade and manufactures, in the riches of the gentry, in plenty among all ranks, and in sharing of the profits of her natives, whom she would then naturally send abroad in numbers as great, as are now unnaturally forced away from her.

F I N I S.