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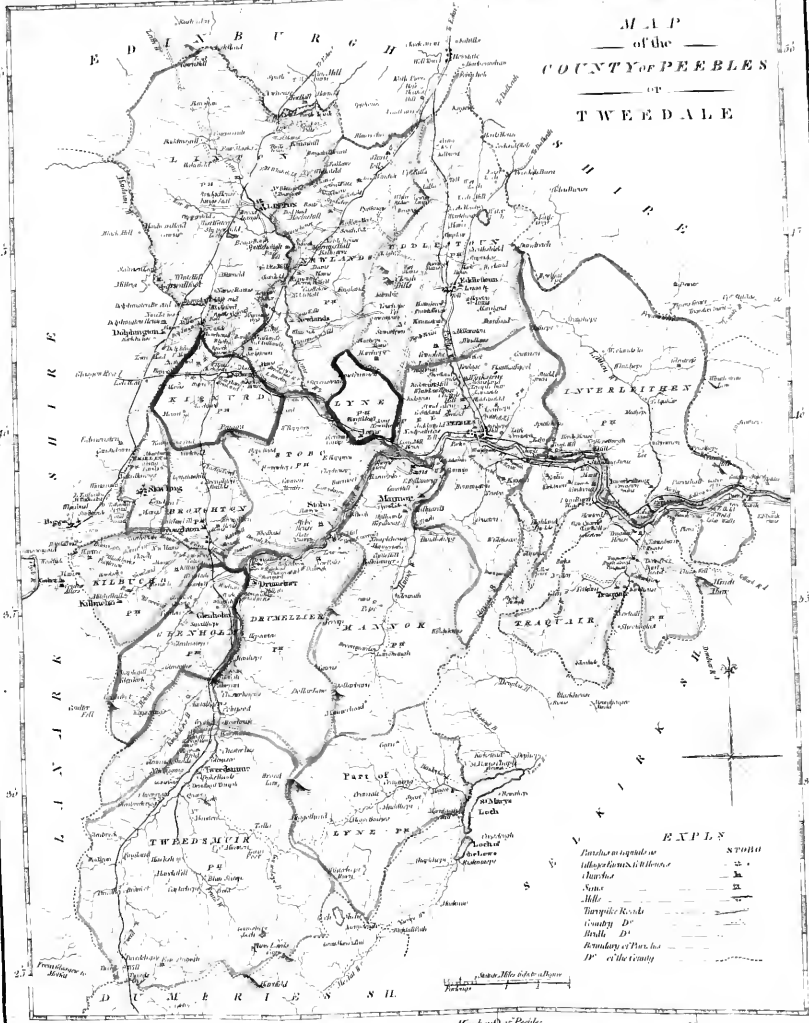


THE UNIVERSITY OF
BRITISH COLUMBIA

June 6/63 Wacford



MAP
of the
COUNTY OF PEEBLES
OF
TWEEDDALE



EXPLAN

Parishes as bounded by
 (dotted lines) & Rivers
 (solid lines)
 Towns
 (M.B.)
 Turnpike Roads
 (solid lines)
 (dotted lines)
 (dotted lines)
 (dotted lines)
 (dotted lines)



10 Longitude E. of Peebles

MAP
of the
COUNTY OF PEEBLES
OF
TWEEDALE

50'

50'

Scale of Statute Miles

GENERAL VIEW
OF THE
AGRICULTURE
OF THE
County of Peebles,
WITH
VARIOUS SUGGESTIONS AS TO THE MEANS
BOTH OF
The Local and General Improvement
OF
AGRICULTURE.

BY
THE REVEREND MR CHARLES FINDLATER,
Minister of the Parish of Newlands, in the County of Peebles.

With a MAP of the COUNTY, and other ENGRAVINGS.

These are Thy blessings, INDUSTRY! rough Power!
Whom labour still attends, and sweat, and pain;
Yet the kind source of every gentle art,
And all the soft civility of life:
Raiser of human kind! by Nature cast,
Naked, and helpless, out amidst the woods
And wilds, to rude inclement elements;
With various seeds of Art deep in the mind
Implanted, and profusely pour'd around
Materials infinite; but idle all.

THOMSON'S AUTUMN.

Left to themselves, all find their level price,
Potatoes, verses, turnips, Greek, and rice.

PURS. OF LIT. 2. DIAL.

Edinburgh:

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SIR JAMES MONTGOMERY BAR^T.
OF STANHOPE,
 LATE LORD CHIEF BARON OF HIS MAJESTY'S
 COURT OF EXCHEQUER
 IN SCOTLAND.

S I R,

BEING about to publish an AGRICULTURAL SURVEY OF THE COUNTY OF TWEEDDALE, I can think of no person to whom it falls so properly to be dedicated, as to You.

Tweeddale claims you as a native, and as one of her most ancient residentiaries. Your long continued attention to the management of her public concerns; your readiness to assist, with salutary advice and counsel, every individual of her sons; together with your conciliatory urbanity of manners, originating in humanity, not in artificial politeness—have long since stamped you with the character, as they have gained you the appellation, of the Father of the County.

Agriculture has, to you, Sir, been particularly indebted, not only in the countenance given to the profession of it by your example; but also through your
 senatorial

fenatorial labours, when Parliamentary Representative for this county; in procuring for Agricultural Industry, through Legislative interposition, a relaxation of the cramping influence of the restrictive spirit of Entail. The same liberality led you to assume an active management in the Parliamentary Abolition of the last remains of Personal Slavery which continued to disgrace your native country of Scotland.

May your Son, who has succeeded you in the honourable station of Representative in Parliament for this county, follow out his father's public-spirited line of conduct, in directing his attention to those great objects of extensive utility, which are so congenial to every liberal and comprehensive mind. Your example has imposed upon him a high degree of responsibility to public expectation, which our knowledge of his character makes us confident he will amply fulfil.

Be pleased, Sir, to accept of this Dedication, as a public testimony to your public desert; as, also, of that sense of private obligation, and of private esteem, in which I have the honour to remain,

S I R,

Your most obedient humble Servant,

CHAS. FINDLATER.

Manse of Newlands, }
16. Oct. 1802. }

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BOARD OF AGRICULTURE for County Reports.

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* * * The Author's inexperience in revising Proof Sheets, and the disadvantages resulting, in consequence of his distance from the Press, will, it is hoped, plead his apology for the following

ERRATA.

Page

19. line 5. *for are, read is.*
34. second paragraph, line 9. *for he, read the.*
53. lines 12. and 13. *for disunion, read disjunction.*
59. line 9. *for county, read country.*
85. second paragraph, there is a reference to Note D. instead of Note C.
96. Though the rent of the county, in the statistical account, is given *per parishes*, the author, in his calculation, has excluded the 3000 sheep of the Selkirk part of Inverleithan parish; when corrected, his general inference will be found strengthened.
109. foot note, line 7. *for enclosure, read enclosures.*
143. second paragraph, two references to pages are left unfilled up—they are to pages 75. and 71.
148. line 9. *for such, read much.*
152. line 6. *for though, read the.*
185. line 2. from bottom, *for forehead, read forehand.*
193. line 10. from bottom, *for to, read at.*
215. Eddlestone fair—*for O. S. read N. S.*
242. line 15. from bottom, *for 903, read 703.*
278. line 12. from bottom, *for duty, read duties.*
290. line 13. *for old mother ancient, read our ancient mother.*
291. foot note, line 2. *for steady tenor of, read steadily announced.* This correction is indispensable, to express the author's intended sense.
299. line 5. *for 1446 read 1449.—N. B.* Wherever the Scottish acts 1446 and 1466 are quoted, subsequently, let them be corrected into 1449 and 1469.
322. line 14. from bottom, place 2. before these words in italics, *The Extent of the Right.*
332. line 20. place 3. before these words in italics, *The Extent of the Use.*
336. last line, supply a comma after *ward.*
340. line 5. from bottom, *for mogen, read moyen*—an old Scottish word from the French, signifying *in common.*
348. line 11. *for rise, read use.*
362. line 3. from bottom, place a semicolon after the word *preceding*; and a comma after the word *read.*

INTRODUCTION.

ALTHOUGH Agriculture has been practised as an art, from the remotest antiquity, it can, as yet, hardly be considered as ranking among the sciences, established upon fixed and determined principles. Experience is, in all things, our only instructor. But it is difficult to ascertain the principles of Agriculture, through experience; because, here, we cannot, as in mechanics, chymistry, &c. command every circumstance that is to be admitted into the experiment; and, consequently, can never determine, with exact precision, the extent of efficacy of each concomitant co-operative cause, in producing the result. The wide extent of the difference of result, produced by the differences of season, over which the power of man has no controul whatever, is extremely obvious; and there is no possibility of determining how far the effect is to be ascribed to human means, or merely to the season, unless every agricultural experiment were to be conducted in a comparative manner.

In regard to the food of plants—a principle which we ought to be able to set out with, as the foundation of the whole practice, had Agriculture attained to the rank of a science—no certain conclusion seems, as yet, to have been sufficiently established. Whilst some, perhaps, still adhere to the generally exploded theory of the fathers of the universal drill-system of husbandry, in imagining it to consist of comminuted earth, however apparently unadapted to enter their capillary vessels under any form: Whilst others place it in oils and salts; although, when
immediately

immediately applied, these substances seem either inefficacious or detrimental to vegetation: Others, considering the earth as of no farther use, than as a support to retain the plants upright and firm, hold water to be the only vegetable sustenance, or water together with air: And others, justified, probably, by more strong analogies, consider it as consisting of the subtle *effluvia*, or *other solution*, of the substance of putrified animal or vegetable matters, administered to the capillary roots or absorbent vessels of the leaves of plants, by the earth, by the air, and by rain; and transmuted and assimilated to their proper substance, by the unknown, and probably uninvestigable, powers of vegetable life.

But, though the theory of Agriculture is so very little advanced, many parts of established practice seem abundantly justified by their general success.

From the earliest antiquity, the *tillage of the ground* has been found indispensably requisite, for the purpose of destroying useless or noxious weeds, and to direct the fertility of the soil to the production of plants more adapted to the sustenance of man and beast—for that of pulverizing the soil, so as to render it permeable to the fibrous roots, extending themselves in search of the proper nutriment of the plant—and that of ridding soils of such superfluous moisture as is found detrimental to them, in throwing the surface into the shape that admits of the readiest descent to water. The manipulations necessary for these purposes, together with the necessary implements of cattle fit for labour, and the instruments of the plough, the harrow, &c.—these, being subjects more entirely under the command of man, where every thing related can more easily be foreseen and provided for, have admitted of gradual and progressive improvement; and, in various particulars, may have possibly arrived at all that perfection of which they are susceptible.

It has been further ascertained, through long experience, that *alternation of crops* is highly advantageous, in preventing the fertility of the soil from being so speedily exhausted. In this view, a classification of crops has been formed—into those which are *exhausting*, and those that are *ameliorating*, or, at least,

less

less exhausting. Under the former class are assorted what are called culmiferous, or white crops; which have few, or narrow leaves; do not shade the ground while growing; and leave the soil, when removed, in a compact, hardened state. To the latter class are referred the leguminous, or green crops; comprehending the whole tribes of peas and vetches; together with all plants cultivated for the root or for the leaves; as also all that are cut green for Summer food or for hay, and are not allowed to stand till they *ripen their seeds*—the process of vegetation deemed most exhausting to the soil: These meliorating crops shade the soil, by their broad leaves; or pulverize it, by the expansion of their roots; or exhaust the soil less, by drawing more nourishment from the air; and, when removed, they leave the soil blackened in colour, and more loose, puffy, and mellow, in consistence. It has been found advantageous to abstain from cropping with white crops in succession, and ever to interpose a green crop betwixt the white ones. It seems not, however, perfectly ascertained, whether this advantage entirely results from the distinctive difference of these crops, *as meliorating and exhausting*; or whether it may not, in part, be ascribed to the general principle (if such a vague conception can be considered as a definite principle) *that nature delights in variety*. This latter supposition would seem, indeed, to be countenanced, from what has been alleged to have been observed in East-Lothian—that two green crops in succession, such as turnip after beans, seems as unproductive a mode of culture, as two white ones in succession. It is probably, too, upon this principle alone, that we can account for the superior thriving of changed seeds, and the deterioration of every species too long sown successively in the same grounds—and for the soil sometimes *tiring* entirely of a particular species of crop to which it has been long familiarized, as is said to be the case with some Norfolk soils in regard to clover. To the same principles, of the meliorating nature of the crop, or of nature delighting in variety, may be referred, the experienced utility of recurring intervals of pasture, or what is designed convertible husbandry.

Where the fertility of the soil has been exhausted by cropping, or where its powers of fertility have never been brought into action by culture, the application of various substances to the soil, under the name of manures, has been experienced to be of very great advantage. These have been classed under the two general descriptions of *enriching* and *stimulant*; though it seems dubious, whether the classification has proceeded upon a perfect and complete comprehension of their distinctive natures. The former, consisting chiefly of vegetable or animal matters, in a state of putrefaction, are peculiarly suited to lands exhausted by repeated cropping: The latter, consisting of calcareous substances, such as lime, marl, and chalk, are considered as best adapted to soils whose powers have not, by culture, been ever brought into action—the septic nature of such substances tending to accelerate the putrefaction of such animal or vegetable matter as may subsist in the soil, so as speedily to convert them into the proper nutriment of vegetables: For the same reason, such manures may even be applied, with success, to lands in a state of exhaustion from repetition of crops, till such time as every thing putrifiable in the soil shall have been actually putrified.

Such seems to be the general summary of the practical principles of Agriculture; which, in particular adaptation, might be extended into a wide detail.

To these general principles the Author must be supposed to refer in the Report, although no explicit reference is directly expressed.

Draining, as a part of tillage; fencing, so as to give command of the soil for exclusive appropriation to particular uses; and sheltering, by plantations of wood, for the purposes of defending both vegetable productions and pasturing animals from the weather;—these, under the most comprehensive view of the subject, might all, also, be considered as several branches of Agriculture.

THE unity of landed estates, in times of feudal turbulence and anarchy, being as indispensable to their security, as is, at all times, the indivisibility of their governments to that of nations; hence, through the artificial restrictions of Entail, together with the established law or custom of the preference of Primogeniture, land has, in most modern nations, been abstracted, in a great degree, from commerce; and large masses of landed property have been made to stagnate, for generations, in single undivided possession.

Portions of land, too large for the personal superintendance of the proprietor, must be parcelled out into the occupancy of farmers, upon the principles explained at large in note D at the end of the Report; and, accordingly, upon the exertions of farmers, must the improvement of the lands at large, chiefly, or almost solely, depend.

As man, however, is not subjected to the laws of mechanism, like inanimate matter—nor to unreasoning compulsion, like the unreflective brute creation; his conduct cannot be regulated, or incited, upon the principles applicable to either; and recourse must be had to *moral excitements*, in order to stimulate him to industrious exertion.

As Tweeddale is a county, into which improvements have been all recently introduced, from counties already improved; it was agreed between SIR JOHN SINCLAIR and the Author, (when, at his solicitation, the Author consented to draw up the Report*), that it would be superfluous to dwell much upon the

* From circumstances occurring, uninteresting to the public, the work was not published by the Board of Agriculture, as originally intended. The Author sent it to the Conductors of the Farmer's Magazine, who published some extracts, which seemed to excite some demand for the publication of the whole. And to the Author's objection, that the local sale, from local interest, in so narrow a county, for a work seemingly local from its title, could never defray the expence of publishing—the answer was, *Publish by subscription, and we will support you with all our influence.* This mode was accordingly adopted.

the *minutiae* of agricultural practice, or implements, the detailed description of which might be expected in the Report of counties where they had been in longer use; and that more space might be allotted to the consideration of those *moral excitements* to agricultural industry in the farmer, which are of universal application.

The handling of the subject, in this point of view, the Author found more congenial to his accustomed train of thinking. In so treating of it, he has uniformly proceeded upon this obvious and simple maxim, the truth of which he apprehends to be as indisputable, as its application is universal, *That the best mode of insuring the invention and prosecution of the most advantageous measures, is, an arrangement, which shall communicate, to those on whom their execution is devolved, a sufficient personal interest in their invention and execution.* To some, he doubts not, such views will be considered as foreign to the Report of a county; whilst, to others, they will constitute its most essential value.

For the sake of uniformity, and of facility of reference, for the purposes of comparison, the system of method for Reports prescribed by the Board of Agriculture, has been adopted. The method is not objectionable; though difficulty is experienced in confinement to the trammels of any prescribed method. To avoid, however, the embarrassment arising from the mixture of speculation with the detail of facts, the Author has thrown into the form of Notes, subjoined to the Report, various speculations which occurred to him as interesting to the subject of Agriculture at large.

For the information of English readers, of whom he finds a considerable number in the list of Subscribers, the Author has dwelt upon some subjects with a minuteness, which would have been superfluous in regard to natives of Scotland.

The Author returns his thanks to the numerous and respectable Subscribers, who have been pleased to patronize his work.

AGRICULTURAL SURVEY

OF

PEEBLESSHIRE OR TWEEDDALE.

CHAP. I.

GEOGRAPHICAL STATE AND CIRCUMSTANCES.

SECT. I.—*Situation and Extent.*

THE county of Tweeddale, or Peebles, is situated betwixt 55 deg. 24 min. and 55 deg. 50 min. of north latitude; and from 2 deg. 45 min. to 3 deg. 23 min. of longitude, west from London; or betwixt $2-15$ and $2-23$ west of the meridian of Edinburgh. It is bounded, upon the north, by the county of Mid-Lothian; upon the east, by that of Selkirk; upon the south, by that of Dumfries; upon the west, by that of Lanark. Its greatest length, from north to south, is about 30 miles; its greatest breadth, from east to west, about 22. The contents, (*See Statistical Tables*), in English acres, amount to 229,778; or in Scottish, (at the rate of conversion, of 5 English to 4 Scottish acres), to 183,823*.

Armstrong, in his *Companion to the Map of Tweeddale*, estimates the arable lands at one tenth of the whole. If by *arable*

B

is

* In a mountainous country like Tweeddale, the real surface may amount to a seventh or eighth part more than the plane of the base, as measured for the construction of a map.

is meant *what is susceptible of tillage*, this proportion would seem by much too little. It is impossible to form a probable conjecture, from any *data* furnished in the statistical accounts of the parishes, of the amount of what is actually kept in constant or occasional tillage; as, from the very various modes of treatment which such lands undergo, in regard to the time they remain in pasture, during the interval of tillage, the account of bolls sown, or of the extent of crop reaped, (were these even accurately stated), could give very little light into the matter.

SECT. II.—*Divisions.*

THE county is divided into sixteen parishes, which are described, in Sir John Sinclair's statistical account of Scotland, as under :

			Page	
Linton	}	- Vol. I.	- { 126	
Newlands				{ 148
Mannor	}	- — III.	- { 383	
*Skirling				{ 254
Stobo				{ 324
*Glenholm	}	- — IV.	- { 429	
*Kilbucho				{ 324
*Broughton	}	- — VII.	- { 156	
Drummelzier				{ 153
Tweedfinuir	- -	- — VIII.	- 86	
Kirkurd	- -	- — X.	- 177	
Lyne & Meggot	}	- — XII.	- { 556	
Peebles				{ 1
Traquair				{ 369
Eddlestone	- -	- — XVII.	- 182	
Inverleithan	- -	- — XX.	- 592	

✂ The four marked * belong to the Presbytery of Biggar; the rest to the Presbytery of Peebles.

The division of Scotland into counties, refers to Civil jurisdiction; the subdivision of counties into parishes, to Ecclesiastical duties and jurisdiction †.

There

† For particulars, as to these duties and jurisdiction, the English reader may consult note A, at the end of the Report.

There are two maps of this county; the one by Edgar; the latest (which is given upon a reduced scale in this report) by Armstrong, who also printed an account of Tweeddale, or companion to his map, in 1775. There is also a topographical and botanical description of the county, accompanied with a collection of humorous poems, descriptive of the manners of the times, by Dr Alexander Pennycook, proprietor of the lands of Romanno, in Newlands parish, published in 1715.

SECT. III.—*Climate.*

THE lowest lying arable land in the county, situated upon the side of the Tweed, where that river leaves the county, and enters Selkirkshire, will be about 400 feet above sea-level. Between 900 and 1000 feet, is probably the highest elevation in which cultivation is attempted by the plough.

The highest hill in Tweeddale (probably the highest in Scotland south of the Friths of Forth and Clyde) is *Hartfield*, in Tweedsmuir parish, upon the confines of Dumfriesshire; its height above sea-level is, according to Armstrong, 2916 feet; that of *Hartfane Broad Law*, in the same parish, is 2850; *Dollar Law*, in Mannor parish, is 2840. Armstrong, in his companion to his map, gives a variety of heights of highest summits of those ridges of hills which traverse the county in all directions, extending from 1800 to 2300 feet above the level of the sea. Abstracting, then, the highest summits, the generality of the pasture lands may be considered as situated at from 500 or 600, to 1700 or 1800 feet above sea-level; or at 1150 feet at a medium.

The climate, in such northerly latitude and high elevation, may readily be conceived as late; and, from the mountainous nature of the country, as moist. Sown-grass hay begins to be cut rather after the middle of July; that from natural grass, about the middle of August. Corn harvest seldom commences, generally, till the second week of September; and it is accounted rather an early harvest, when the whole is got into the Winter stack before the close of October. The reapers from the

the Highlands of Scotland generally find employment for several weeks in Tweeddale, after the termination of the Lothian harvest; the difference being observed as greater in favour of these lower counties in a bad, than in a good season.

The time of sowing, in the higher parishes, is just so soon as the state of the weather, and of the soil, will permit. Peas and oats are frequently sown in February; it is thought tardy, at Linton, to sow even the earlier species of oats much later than about the 20th of April; rough beer, or bigg, after the middle of May; turnip, without dung, after the end of May, or with it, after the latter end of June.

The higher the elevation, the greater is the degree of moisture; and the crops are found to run more to straw, and less to corn. Early sowing is considered as a check to the growth of straw, and as conducive to the more thorough ripening of the corns: The length of pod or ear, however, is found to be proportional to the length and vigour of the straw or haulm; and the medium, of most advantage upon the whole, must be attempted to be hit. Accordingly, in the lower end of the county, where (from less high elevation, as well as greater sharpness of soil) shortness of straw, and proportional shortness of ear, are most to be dreaded, sowing is deferred till two or three weeks later in the season, than in the higher end, where the danger most to be apprehended, is the want of thorough ripening. From early sowing, and the use of earlier ripening species of grain, the backwardness of climate is seen to be so far counteracted, that the harvest in the croft lands around the village of Linton, (where the improved husbandry first became general), has, for a number of years bypast, been finished sooner than in the crofts around the town of Peebles; although the difference of elevation cannot be supposed less than 200 feet. Early sowing cannot, meanwhile, be advantageously adopted, where the lands are not clean; else the weeds, more congenial to the soil and climate, will thrive faster than the artificial crop during the cold early Spring months, overtopping and choking it.

Cold

Cold easterly winds often prevail during the Spring months; and it may be questioned, whether we have not, in general, more frosts in the first half of December, than in May. In the seasons 1794 and 1795, frost winds continued till the latter end of June, blackening the leaves of the ash-tree, (which soon feels the impression); and, in low situations, nipping down the stems of the potato. In 1801, the whole potato stems were laid flat with the ground, (excepting where growing in high situations), on the night of the 11th of June; and, in 1796, the same thing happened upon the night of the 7th of July. Before the last mentioned period, it was proverbial in Tweeddale, that there was no month in Spring, Summer, or Autumn, in which we had not experienced frost destructive of vegetation, but the month of July.

Our Winters are rigorous; and the turnip crop is, of consequence, often lost, unless consumed by Christmas or New Year's day. Cattle do not fatten upon them in their frozen state; it is well if they merely do not lose flesh. In the higher parishes, they are often frozen to such hardness, that they must be allowed to thaw in running water, before the cattle can make impression upon them with their teeth*.

Besides the general frosts in Winter, the higher parishes are much exposed to a species of partial frosts in the end of August and beginning of September, which chiefly affect the low-lying lands by the sides of running waters, lakes, and morasses.

* When put into a vessel of cold water, where the process of their thawing is more easily observed, a shell of ice, of greater or less thickness, forms itself all around the surface of the turnip, like a globe of glass, exactly fitted to its shape; upon breaking off the ice, the turnip is found soft and sound within it. If too many turnips are put into the vessel, the whole contents congeal into one mass. In running water, the ice formed by the cold of the turnip is dissolved, as soon as formed, by the successive application of new water.

I laid out a potato on the outside of a window to freeze all night, thawed it in cold water next morning, and then boiled it; its consistence was not impaired, but it seemed rather insipid as to taste.

Animal or vegetable substances, when thawed by the application of heat, grow putrid.

morasses. A low creeping mist, or hoar frost (called, provincially, *rhyme*, or *cranreugh*), in a dead calm, particularly after a tract of rainy weather, is seen to settle, after sunsetting, upon lands of this description; which, if succeeded by bright sunshine the day following, proves destructive to all further vegetation. It would seem to do little damage to corns that are hard ripe; and in regard to some species, particularly that of oats, it does not prevent their further maturation, if it attacks them whilst the juices in the ear are still in a watery state: But, in the intermediate stages betwixt that state and maturity, it renders every species alike unfit for feed, and of very inferior value for meal, both in respect of quantity and quality. A particular account of this kind of frost will be found in the Statistical Accounts of the Parishes of Linton and Glenholm. In the year 1784, the crop of bigg, or rough beer, was destroyed, through the higher parishes, so early in the season as the 17th of August; and that so completely, that I perfectly recollect to have seen it applied to the thatching of houses in the village of Linton, unthreshed, as it was carried from the field, without the smallest apprehension being entertained of a single grain vegetating in the ear: In that season, the oat crop, which being a later grain, was not so near maturity, suffered but very little. In 1782, as the frost happened much later, the beer was not so effectually destroyed as the oats, having reached its maturity; while the oat crop was in its most susceptible stage.

It seems extremely probable, that plants, artificially introduced from a more southern latitude, and more benign climate, do not attain to that maturity in a northern latitude, which they reach in their native situation: It seems equally probable, that those plants which are native to a northern climate, and which there attain to their most perfect state, are, at best, less nutritious than the native productions of a more benign climate. On both accounts, it seems probable, that, in a county situated as Tweeddale, the whole vegetable productions, whether artificial or native, should be of an inferior kind: and that even equal weight of the same species of grain, may

may not contain an equal quantity of nutritive substance ; as it contains not the same quantity of fermentable substance, upon which probably the nutritive quality greatly depends *. There is a difference in the quality of the grain of the higher and the lower parishes in the county, that amounts to the difference of 1s. 6d. of price *per* measured boll, when the average price *per* boll is 16s.

The climate of Tweeddale is not very propitious to fruit trees. The gooseberry, raspberry, currant, and strawberry, are the best fruits produced in our gardens. The raspberry is a native, and ripens its fruit in the highest parishes. The bramble is a very rare plant, excepting in the lower end of the county ; and I am not ascertained that it brings its fruit to perfect maturity in any season. The hazel does not ripen its nut to perfection in the higher parishes, unless in very favourable seasons.

I am indebted to James Reid Esq. of Peebles, who has practised physic, with high reputation, in the county, for near half a century, for the following Register of the Weather, extracted from one he regularly kept in the town of Peebles for many years.

REGISTER

* According to the calculation of Mr Ker of Kerfield, brewer by Peebles, Scots barley, on an average, yields fully one fifth less of fermentable substance, from like weight of grain, than English barley.

Agricultural Survey of Peeblesshire.

REGISTER OF THE WEATHER, FROM 1766 TO 1772.

Months.	Ann. 1766.		1767.		1768.		1769.		1770.		1771.		1772.	
	Depth of Rain.	No. of Wet Days.	Rain.	Wet Days.	Rain.	Wet Days.	Rain.	Wet Days.	Rain.	Wet Days.	Rain.	Wet Days.	Rain.	Wet Days.
January	.319	6	2.762	18	2.715	16	2.070	14	1.775	20	1.270	15	1.100	16
February	.525	12	2.322	14	4.599	21	1.050	12	1.400	15	.900	10	.555	18
March	1.951	13	2.020	14	.635	10	1.449	19	1.480	15	.615	17	1.575	16
April	1.525	11	.571	7	1.089	15	2.140	17	1.458	13	.577	14	.822	16
May	3.761	18	1.837	17	.836	11	2.182	15	2.503	17	2.185	17	.780	9
June	3.251	18	.355	11	2.999	14	2.270	20	3.550	23	.705	7	1.921	15
July	1.239	17	4.892	20	5.103	27	1.36	16	1.469	16	1.352	15	3.201	18
August	1.522	12	1.711	19	1.648	16	4.047	21	1.331	9	2.648	19	3.095	18
September	2.543	15	1.204	18	3.521	19	2.911	20	3.053	17	2.260	16	3.168	17
October	3.011	13	2.296	18	3.713	19	1.308	14	1.806	17	4.180	19	4.225	18
November	2.506	13	3.589	20	3.665	18	3.515	15	5.225	17	3.578	16	6.525	28
December	1.900	12	.845	14	2.510	12	3.250	17	4.296	23	1.697	16	1.187	14
Total	24.153	160	24.404	190	33.033	198	27.553	200	29.346	202	21.967	181	28.154	203

The medium depth of Rain, for the above seven years, $26\frac{8}{10}$ inches at an average. The average number of days having rain or snow, is 190 $\frac{4}{10}$.

REGISTER OF THE WEATHER, FROM 1773 TO 1779.

Months.	Ann. 1773.		1774.		1775.		1776.		1777.		1778.		1779.	
	Depth of Rain.	No. of Wet Days.	Rain.	Wet Days.	Rain.	Wet Days.	Rain.	Wet Days.	Rain.	Wet Days.	Rain.	Wet Days.	Rain.	Wet Days.
January	3.818	17	2.680	14	5.090	21	1.650	20	2.330	12	2.	16	.850	6
February	.323	11	2.655	7	5.461	22	2.725	20	2.	17	1.940	11	1.200	8
March	.578	9	.441	8	2.271	21	1.295	16	1.535	14	2.835	17	.155	11
April	2.433	20	2.540	21	.561	16	.876	10	2.845	17	1.712	26	2.965	16
May	1.313	9	1.665	13	1.259	14	1.120	14	2.311	21	2.689	23	3.510	18
June	.909	11	3.336	22	1.607	13	1.870	16	2.102	19	2.375	17	2.348	12
July	.754	8	2.224	25	5.115	20	3.350	20	2.733	21	3.010	20	6.055	14
August	.991	10	3.654	22	3.096	20	3.655	18	2.365	21	2.191	15	.900	9
September	3.834	27	3.102	20	4.645	19	2.400	19	1.625	9	2.210	17	5.426	24
October	2.833	17	1.759	15	4.035	18	1.100	10	6.530	19	5.540	20	3.282	16
November	3.419	21	1.849	17	2.100	15	3.325	16	3.250	19	5.660	24	2.850	13
December	2.405	11	3.638	15	.900	7	1.570	13	1.700	14	4.170	21	4.	12
Total	23.610	171	29.543	209	36.140	200	24.936	192	31.326	203	36.332	227	33.541	159

The medium depth of Rain, yearly, from the average of the above seven years, is $30\frac{6}{10}$ inches. Average number of days having wet or snow, is 194 $\frac{3}{4}$. Mr Reid observes, that "the five last years add considerably to the average depth of rain, which would not exceed 26.75 inches for the other nine years.

In his letter to me, Mr Reid observes, " That the climate of Tweeddale is variable, as that of all hilly countries : That, from its midland situation, it receives a portion of wet from both seas, though probably less than either shore, yet with more days having rain from flying clouds, than even the west coast ; the quantity, however, falling in one day, often not exceeding .001 of an inch : That, from a register kept at Dumfries, in 1776, the rain there amounted to 36.9 inches ; when, at Peebles, it amounted only to 24.936 inches : That snows add considerably to the number of days marked wet in the register, in the months of December, January, February, and even March, though little to the depth of rain : That, including the south with the west, and the north with the east, the winds blow more often from the west, than from the east of the meridian, in the proportion, sometimes, as 4 to 3 ; at other times, as 5 to 4 : That the medium height of the barometer, at Peebles, is in Summer 29.2, and in Winter 29 : That the thermometer has been known at 81 in Fahrenheit's scale ; and, on the 14th January 1780, as low as 14 below 0 ; Such instances being, however, quite unusual. He remarks, that the situation of the town of Peebles is particularly healthy ; standing upon a fine dry bottom of gravel, 500 feet above the level of the sea, and at the confluence of Peebles water into Tweed, the currents of which preserve a due circulation in the air, even in the calmest weather ; the easterly fogs, which so often overspread the Lothians, never almost reaching Peebles, being arrested by the high hills to the eastward of that town *.

In

* The revenue belonging to the town as a body corporate, may be considerably above 300l. yearly ; arising from land rent—from corn and flour mills—from custom levied upon goods sent to market, or carried through the town—from portage also at the bridge over Tweed within the town's jurisdiction, levied upon drove cattle, the most of this kind of revenue being received from Highland cattle passing to England. Peebles would appear to have been often used as a hunting residence by our Scottish kings. Money would seem to have had been coined in it ; an house still retaining the name of *Guinzee Nook*. Large tracts of land, extending on the hills for six or seven miles downward to Gatchaup burn, would seem to have been granted it, in property, or in right of pasturage ; the rights to which are now lost, from encroachment, or through dereliction.

In regard to diseases, he observes, that there are few prevalent in Tweeddale, which have their origin from damp and putrid exhalations; that bloody flux or ague seldom occur, or any putrid diseases; and that inflammatory fevers are sometimes frequent in Spring*." In the year 1763, ague was extraordinarily prevalent. Since that period, it seems to have totally disappeared.

It would appear, from the Statistical Accounts, that chronic rheumatism (*the pains*, as it is provincially designed), is frequent among old people in the lower classes; and that slow fevers are pretty general in some seasons, from poor feeding, bad clothing, and damp lodging: In regard to which circumstances, incident to the lower orders, Tweeddale has much improved, and is still improving †.

* The only place in Tweeddale where ague was ever frequent, was at Pirn in Inverleithan parish, owing to a clay morass, since the draining of which the disease has not appeared. There are numerous dwellings in Tweeddale situated in the vicinity of mosses, and of stagnant pools of moss water, where ague is totally unknown; from whence it would appear, that the miasmatic exhalations from moss and moss water, are not of the septic nature of those from clay morass. There is, indeed, an experiment familiar to every old woman in Tweeddale, which shows, that moss water, even when stagnant in pools in hot weather, is not nearly of such a septic quality as any other water placed in the same circumstances; and it is this, that though lint will rot, if left in other water, in such circumstances, even for twenty-four hours only after it hath been sufficiently macerated, it may be left eight days in moss water without sustaining any material damage.

† It hath often been matter of surprise, that no epidemic diseases appeared after the very extraordinary alterations that the usual feeding of the poorer classes must have underwent, both as to quantity and quality, in consequence of the calamitous scarcities of 1782, 1799, and 1800. In most great towns, the two last have been remarked, from their bills of mortality, as unusually healthful; yet, undoubtedly, a very great number did not receive above two thirds of their usual quantity of food. Surely, in ordinary seasons, or at all times in situations of affluence, much more food is used than what suffices either for health or strength. The return of plenty in 1801, has been accompanied by the prevalence of pleurisy.

SECT. IV.—*Soil and Surface.*

In agriculture, as in other subjects, terms are bandied about, to which, perhaps, no two that use them affix precisely the same ideas. The strong marked distinctions of soil, into *clay*, *moss*, and *sand*, appear obvious to most people; but the different distinctions of these, with all the intermediate distinctions of soils composed of these, together with other materials in all varieties of proportion, have not probably obtained, as yet, a sufficient number of distinctive appellatives, to difference them properly; and, even of those names in use, perhaps, few or none have been so accurately defined, or so steadily appropriated, as to communicate a very determinate signification. It would tend much to the speedy diffusion of agricultural knowledge, were there some easy method devised, accessible to every farmer, in the way of simple chymical analysis, or otherwise, by which he might be enabled to distinguish readily all the varieties of soil as they occur, and to refer them, under their proper designations, to the classes to which they belong: Writers upon agriculture would then be in possession of a language generally intelligible, and be spared numberless circumlocutions. Perhaps the time is not far distant, when the science of Agriculture, under the auspices of the scientific and patriotic characters who have taken it under their protection, shall attain to the same precision, in this respect, as the sister science of Chymistry. In the mean time, I apprehend, that the terms used to characterise many of the varieties of soil, are very vague and undefined; such, for instance, as *loams*, in all their varieties, *moorish* soils, &c. I confess, I can never be certain of conceiving the exact meaning of the writer, when I read such terms; nor could I pretend to apply them, with any sure conviction of exciting, in the mind of the reader, the precise idea which I have formed in my own.

By far the greater part of the soil of Tweeddale never was, nor probably ever will, be turned up by the plough. Of the lands under culture, there is great variety of soil; such as
 moss,

moss, clay, sand; moss and clay, moss and sand, clay and sand; and these mixtures, in every variety of proportion.

Moss would seem, from its history and appearance, to be a particular species of soil, generated from the decomposition of vegetables successively growing and decaying in stagnant water. It constitutes, when cut into peat and dried, a very common fuel in Tweeddale, and through the north of Scotland. It is probably convertible, by proper management, into a rich manure. It is found in almost every hollow, upon, or among the hills, in the higher parishes, from four or five, to ten, or even twenty feet in depth: At the bottom of the bed, it is always of the deepest black colour, of the most homogeneous consistence, and of the greatest solidity and power as fuel, when dried into peat: Nearer to the surface, it is of a lighter tobacco colour, of a more spongy contexture, consisting chiefly, to appearance, of the interlaced fibres of plants, in a greater or lesser state of decay.

Besides these mosses in hollows, or upon dead flats, moss is also found on high grounds, in the higher parts of the county, composing a soil of from two to three or four feet in thickness, lying generally upon a considerable declivity, (a circumstance rather inexplicable upon the commonly received theory of its generation), over a subsoil, impervious to water, of sand or clay till: In its natural state, it is always moist; but, in course of repeated tillage, and of being treated with large doses of lime, it subsides and consolidates, and becomes more dry; when, after the subsoil is reached by the plough, and is raised and incorporated with the moss, these soils are formed, which, (according to the quality of the subsoil), I would distinguish by the names of *moss* and *clay*, or *moss* and *sand*—mixtures purely artificial, and which exist not in the natural state of the soil. Sir James Montgomery of Stanhope, late Lord Chief Baron of the Court of Exchequer, has cultivated more of this soil, than any other Tweeddale proprietor, upon the north-east extremities of the parishes of Newlands and Eddlestone; where, under his mode of management, it is brought to yield pretty large returns of the Magbiehill, or Red oat, though of inferior quality

quality as to grain; and where, while laid in grafs, the largest sized oxen ever bred in Tweeddale have been reared by him*.

There is a foil pretty common on the skirts of heath-clad hills, and on high, dry-lying flats, which has some appearance of being a natural mixture of mofs and fand; it seems to consist of a peculiar species of black earth, mixed with fand of a greyish white colour: when turned up by the mole, the hillock appears black, so long as it remains moist; but, when it becomes dry, it appears as if powdered over with the fand above mentioned: whether the black earth is real mofs, seems doubtful. It produces heath in its natural state; it is the poorest of our foils; very thin; and so loose, as to blow with the wind in drought, after being pulverised by the plough. When under tillage, and lying, as in general found, upon a subfoil impervious to water, it acquires almost a fluid consistence in wet Winters, infomuch, that a strong wind will cause the drills of turnip growing upon it to undulate perceptibly. This foil may be one species of what is called *moorish* foil. It abounds pretty much in Linton parish; and, if I am not much deceived, will generally be found above freestone rock. The wild uncultivated thin moorish foils which are met with in parishes where the rock is whin, or slate, or limestone, will, I apprehend, be found of a more solid and tenacious consistence, and of a browner colour.

The skirts of most part of the hills, at the highest elevations to which cultivation is extended, seem generally to consist of a foil of the last mentioned kind; which appears to be composed of a mixture of fand and clay, in various proportions, with often a mixture of gravel of various kinds; such as gravel of freestone, of limestone, of whin, of slate, and, in several instances, of ironstone. From the colour, perhaps, this foil might properly be designed *hazel foil*; a designation which, I think, I recollect to have read somewhere.

Descending

* I have known of an American being much deceived in conceiving our mofs (from its colour) to be the fine deep black vegetable mould of the virgin foils of America.

Descending a stage further down upon the hills, clay is generally found to predominate more in the composition of the soil.

Still nearer to the bottom of the hills, where the declivity becomes very gentle, and immediately above the troughs of flat land, (called provincially, *haughs*), formed by the course of the larger waters, the soil is generally deep and fertile; being composed of sand and clay, with often a great proportion of loose stones, chiefly of whin or slate.

The flat lands (*haughs*) in the troughs of the waters, particularly where subject to be overflowed, are observed to be, in general, of a more sandy consistence, and the more so, in proportion to their contiguity to the water's course; though, in such situations, there are some exceptions, even in favour of stronger clay.

The *old croft lands* * are commonly found in the one or other of the two last mentioned descriptions of lands; and the soil of *these*, blackened and mellowed through repeated dunging and plough culture, may probably, with propriety, be denominated *loams*; varying the designation, according to the original differences of the soil, as *clay loam, sandy loam, gravelly, stony, &c. &c.* Perhaps, it is proper to extend this denomination of *loams* to such soils as, in their natural state, bear the strongest affinity to these artificial soils of *old croft*.

From the appearances of the soil, as above stated, a theorist might be led to suppose, *imo, In regard to the water haughs*—that their sandy consistence, particularly sandy in proportion to their contiguity to the water's course, arises from this—“ that the superior weight of the sand allows it alone to be deposited,
in

* *Croft*, or infield, is a generic designation, applied universally in Tweeddale, and over Scotland, to such lands as have been in use to be kept under constant cultivation of cropping; receiving the whole of the dung produced from the cattle, house-fed in Winter, with the ashes, &c. from the farmer's dwelling. Land never cultivated, or only occasionally after folding or lime, is universally designed *outfield*. This designation, however, refers to ploughing; such land never receiving the appellation of *outfield*, till it is spoken of either as *ploughed*, or as *about to be ploughed*.

in this situation, from the overflowing flooded waters; but that, in proportion as you recede from the water's course, the overflowing water loses its velocity as it spreads into a thinner body, and *there* deposits the more minute particles of sand, and the lighter particles of clay; which alone it was able to keep in suspension to that distance from the main stream."

2do, As to the hills, he might conjecture, "that, towards their summits, the rain water must run in a more diffused state, and with less *momentum*; and, to a certain distance in their descent, can therefore only abrade and wash out a portion of the finer particles of clay or sand from amongst the gravel, leaving the soil which it hath run over, of a gravelly or *hazel* description: that, as you still farther descend, the hills generally grow less steep; whence, the velocity of the descending water is impeded, and a deposition is made of the fine particles of sand and clay, which its velocity had hitherto enabled it to keep in suspension: that, on still farther descending, the various bendings of the ground throws the water together into rivulets (or *burns* *), where its weight and velocity, or *momentum*, increasing, it is enabled to wash out and keep in suspension the weightier particles of sand, as well as clay, to be deposited on the banks of these burns when they overflow; a part being also delivered, as a tribute, by their main stream, to the larger waters with which they unite, to be deposited also upon their *haughs*, in the *ratio* already noticed."

There are doubtless many facts, which countenance such suppositions; it is however doubtful, if they are so universal as to form a constant general rule.

Strong examples may be found, in further support of that theory of soils, "which thus deduces their origin from the gradual decomposition of the more compact substance of the mountains, by the action of the different elements, washed
out

* The designation of the smallest rill of water is a *syle*, or a *well-strand*, if from a spring-well. If the water is of quantity sufficient to drive a small water-wheel for light machinery, it is called a *burn*. Larger streams are called *waters*. Tweed is our only water denominated *river*.

cut by the rains, and deposited, in this manner, upon the lower grounds *." Thus, the prevailing stone in Linton parish is freestone, which is everywhere found in quarries, in loose stones, or detached masses, over all the hills and moors, and beds of rivulets, at the heads of Lyne water. Now, the decomposition of freestone should apparently produce sand: and, accordingly, sand soil is found to prevail more in Linton than in any other parish of the county, with the exception of moss, of moorish or hazel soil, in situations as formerly described, and of some more tenacious soil, lying on limestone. Sand soil is the prevailing soil in the crofts kept under constant rotation of cropping. The haughs, subject to be overflowed in the trough of Lyne water, (even where that water runs through the parishes of Newlands, Lyne, and Stobo, where the prevailing stone is whin), are, with few exceptions, of pure sand soil. The depositions from Lyne water seem to produce the same effect upon the soil of the haughs upon Tweed, to a considerable distance below their junction. The prevailing stone through the other parishes is whin or slate, or of a mixed nature between these two; and the soil (with the exception, in many instances, of sand soil, where the waters overflow) is of a more clayey, unctuous, and tenacious consistence.

Stagnant water, as already observed, seems, in certain circumstances, to give rise to moss: it seems also probable, that, by long continued action, it may have a tendency to convert sand into clay. In some of our very flat vallies, where the rivulets, running through them, have little velocity, where the course of the stream, impeded by windings, keeps the adjoining lands in a constant soaking moisture, such lands are, I believe, universally found to consist either of moss, or of clay morafs; generally, indeed, moss near the source of the stream, and clay further down.

The higher you ascend towards the sources of the waters, moss soil is commonly found in more abundance. When the

D

waters

* Townshend, in his travels through Spain, affirms that he could predict the soil of the vallies, from the nature of the substance of the surrounding hills.

waters are in flood, they are of a brown colour, from the clay and sand kept in suspension; as they subside, these heavier matters are deposited; they gradually become black; and, for two or three days, (as the ground has been more or less soaked with rain), they retain a porter-coloured tinge, from the suspension, or the solution, of the more minute and lighter particles of mofs.

It has been remarked, that the hills on the left bank of the Tweed, of a southerly or westerly exposure, are generally more verdant than those of the right, though with many exceptions.

Surface.—Upon a general and distant view, this county seems to consist of a confused congeries of chains of mountains, running in all directions. The arable land appears only, upon internal investigation, lying upon the banks of the waters and burns, and the acclivities of the skirts of the hills. For these reasons, it was found impossible to represent, in the map, the divisions of arable and pasture lands, or the distinctions of soils: the arbitrary division into parishes, is therefore alone marked.

In its general appearance, the county, though wild, can hardly be designed romantic: the mountains, though high and large, and too much upon the vast for beauty, are yet too tame for the sublime. There is nothing abrupt—nothing terrific—nothing, in short, to strike forcibly the imagination of the poet, or the painter; unless, indeed, the feelings of a native, blunted by familiarity and repetition, should be questioned, as a proper standard of judgement*.

The

* Tweeddale has probably furnished the scene of some of our favourite Scots songs. Of *the Busb aboon Traquair*, there can be no doubt: As to *Tweedside*, the matter may be more problematical; Tweeddale having no exclusive appropriation of the Tweed. There is in the county, a *Logan-house*, also a Logan-burn, which, in compliment, might be called *Logan-water*; both, probably, too insignificant to have been celebrated in the songs of that name. *Peebles play* undoubtedly refers to sports celebrated in the county town.

Doctor Pennycook makes a singular remark upon the inhabitants, though I know not that it is well-founded—“ Music is such a stranger to their temper, that you shall hardly light upon one amongst six, that can distinguish one tune from another; yet, those of them that chance to hit upon the vein, may match with the skilfullest.”

The variety of hill, and dale, and water, might furnish scenes of great natural beauty, or even grandeur, were it not for the almost total want of natural wood. For though tradition reports, that a great deal of wood once grew in the county, at present few vestiges of it remain; and where any are found, upon the banks of the waters and skirts of the hills, it is mere brushwood, consisting chiefly of birch miserably stunted in growth, some species of grey willow, hazel bushes, and a few mountain ashes, with sometimes a fringe of dwarfish alders marking the courses of the rivulets. It may, no doubt, be reckoned unfair to judge of what the natural wood might have been, by the remnant that now appears: The former wood may have been grubbed out for fuel, or to make room for pasture or the plough; and what now remains, may have been stunted in its growth by the repeated cropping of the sheep: The trees, however, found in mosses, (the only specimens of the wood of former times), are generally, it must be confessed, of diminutive size *. In the various artificial plantations through the county, the trees come to nothing in the higher parishes, where the soil is mean, or the situation exposed; and, of late, it is, with good reason, coming more into practice,

* The wood most commonly found in our peat mosses is birch, or hazel. Oak is sometimes, though rarely found; black, heavy, and hard, like ebony. Single trees of oak, of considerable size, have been found in mosses near the top of high hills.

It is pretty remarkable, that, in the moors of Carwath parish in Lanarkshire, adjoining to the higher parts of Tweeddale on the north-west, at an elevation as high, and under a climate as unpropitious as any part of Tweeddale, most places seem to have obtained their names from woods; such as *Hazwood* or *Hartwood*, *Girtwood* or *Greatwood*, *Woodside*, *Woodend*, &c. &c. There are no vestiges of such woods above the surface, but abundance below the mosses. Fir (unknown in Tweeddale mosses) is found in some of these, long and straight, indicating its having grown in thickets. Its fibres are so tough that they are twisted into ropes for halters and teathers: The splits of it are used for light, by the name of *candle fir*—Strong marks of great convulsions in nature.

Some farmers have taken the hint of burying fir, for roofing, in mosses, in order to insure its incorruptibility.

tice, to improve poor soil by lime, and to drain the wet by ditching, or the plough, before planting. Around gentlemens houses, where the soil is good, and where they enjoy protection and shelter, trees thrive well; and though the uncultivated parts of the county seem no way striking, either for sublimity or for beauty, there are, nevertheless, a variety of gentlemens seats scattered up and down, which are pleasantly embosomed in trees, and which enjoy these chief advantages for policy, of great diversification of surface, and command of water.

SECT. V.—*Minerals.*

THERE are quarries of white freestone in the north-east extremities of the parishes of Newlands and Linton. Further west, upon the boundary betwixt these two parishes, there is a hilly ridge called *Broomylees*, containing quarries of a dark red freestone, of an harder consistence than the white, with some seams of it which rise in flags, and which make durable pavement. These are the only freestone quarries open for sale; and from these, together with the white freestone quarry of Marfield, on the Mid-Lothian side of the water of North Esk, the county has been, and is supplied with these articles; white freestone pavement, and stone for stairs or hearths, being generally brought from Hailes quarry in Mid-Lothian. The freestone, both red and white, with a particular species of the former, which, from its weight, would seem to contain iron, are to be found, in many other places in the parish of Linton, and the adjoining side of Newlands.

There are a few quarries of excellent whinstone, particularly at Edstone, near the town of Peebles; whence, probably, the town has been built. None are open for sale: There is, indeed, no demand; whinstone being the prevailing rock through the county: It is, however, often of either a laminous texture, of the nature of slate, or so intersected with cutters, as to fly under the hammer in all directions, and to be incapable of being dressed into a regular shape.

The slate of Stobo parish has been long in repute. Besides supplying the county, it is carried down Tweed as far as Kelfo, to Edinburgh, and through the upper ward of Lanarkshire.

Coal and limestone abound in the north-east extremities of Linton and Newlands parishes, whence the whole county is supplied; with the exception of the parishes of Eddlestone, part of Peebles, Inverleithan, and Traquair, which more generally obtain these articles from the Lothians. A road, carried from Darnhall in Eddlestone parish, to Noblehouse inn in that of Newlands, connecting the two Edinburgh roads, would give nearer access, to part of these parishes, to the coal and lime of the county, than what they possess at present, to those of the Lothians.

The parish of Glenholm is reported, in the Statistical Account, to burn lime sufficient for its own consumpt, probably with coal from the parishes of Linton or Newlands, or perhaps with peat, which is, however, but a poor succedaneum for coal. Limestone might be found in several other parishes, but is of little value, for want of coal; it being generally accounted cheaper to carry burnt limestone, than to carry coal from any considerable distance to burn raw limestone upon the spot. The coal is at present wrought no deeper, than so far as the water can be carried off in a level; the scantiness of population, and want of manufactures, occasioning no demand to enable the proprietors to work it in a more expensive manner. The increasing improvement of land by lime, and the greater prevalence of fallow crops, which renders it inconvenient for farmers to spare the time and labour formerly employed for cutting and drying peat moss for fuel, have so much increased the demand both for lime and coal, that the supply is not adequate to the demand. The prices, according to proximity to the demand and quality of the article, are as follow: Coal at *Collyburn*, 8d.; at *Carlips*, 6d. or 7d. per load of 2 cwt.*:

Lime

* Formerly, before the formation of good carriage roads, every thing was carried upon horses backs. The load refers to this practice.

Lime at *Magbiehill*, 1s. 1d.; at *Whitefield*, 1s. 2d.; at *Carlips*, 1 1/2d. per boll of shells; two bolls of shells, or, at most, two and an half, being the loading of a single horse cart: Farmers carrying their own lime, carry only two bolls, and have generally nearly the same loading as hired carts carrying two bolls and an half; the interest of the former being, to have the greatest quantity under the least denomination—that of the latter the reverse.

The coal wrought in this county, is the westerly termination of that large bed of coal which extends in a north-east direction through the Lothians, on both sides of the North Esk water, to the sea at Musselburgh, in a stretch of about fifteen miles in length, by from seven to eight miles in breadth; and which, by Mr Robertson's calculation, (Report of Mid-Lothian), would suffice to supply Mid-Lothian, at its present rate of consumption, for 800 years. Ironstone abounds in the parish of Newlands, in the range of hills running along the right of the public road as you go from Noblehouse inn towards Edinburgh. It seems not, upon trial, to have been found sufficiently rich in yield of metal, to afford the expence of carriage to the iron-works upon Clyde, or at Carron, or at Newcastle; though perhaps experiments may not as yet have been made, sufficiently decisive of its value. The Honourable Captain Cochrane, of the *Ajax*, ship of the line, erected a small manufactory upon his estate of Lamancha; where, by means of a calcining furnace, and a mill with a water-wheel for grinding, this ore was converted into a paint of a dark red colour. None has been manufactured for some years bypast.

In those ages, when scanty yielding mines could afford a profit, it would appear that gold was searched for in the rivulets of Megget, (Statistical Account of Lyne and Megget); and that silver was obtained from mines near the village of Linton, where remaining vestiges of old sinks, or pits, still retain the name of *Silverboles*. The hill where these silver holes are, is called *Leadlaw*; and it is probable, before the discovery of the mines of Peru, that it might be profitable to work even inconsiderable veins of lead, for the sole purpose of extracting silver
from

from the lead. The value of lead would appear to have been so far reduced, by the discovery of the rich veins of Leadhills, Wanlockhead, and probably others, that it is now unprofitable to work inferior veins for lead; which, formerly, could have afforded the expence, for the mere silver obtained from the calcination of the lead. About forty years since, the working of the lead veins in the hill of Leadlaw was revived, but soon dropt, as unprofitable. Attempts have been made to discover lead worth working in other hills of Tweeddale, which have hitherto proved abortive.

Marl, or at least substances fermenting with vinegar, have been discovered; sometimes in strata of hardened clay, or tough stone of a dark blue colour, lying above limestone rock; at other times in masses formed by wells from limestone, of a petrifying nature, incrusting the fog with calcareous matter, and of a white colour: beds of it, probably of the last mentioned origin, have been found covered with a stratum of moss. It hath not been found but in the parts of the county in the vicinity of lime, which supercedes its use.

Chalybeate springs, with blue scum, iron taste, and ochry sediment, every where abound in the parishes of Linton and Newlands. One of these, called *Heavenagua Well*, in Linton parish, is, I have been told, equally strong as the waters of Tunbridge. A spring was, within these fifteen years, discovered near the village of Inverleithan, containing both salt and sulphur, and said to be of the same nature as the waters of Harrowgate. It is considerably resorted to; and several houses, of two stories, have been built in the village, for accommodation. The yield of the spring, in dry weather, is at the rate of about one chopin (English quart) in the minute. Before its properties were attended to, the place where its waters oozed through the ground was much frequented by pigeons, and the spot had obtained the name of *the Pigeons Well*.

SECT. VI.—*Water.*

THE river Tweed is accounted the fourth in magnitude among the Scots rivers. For several miles in its course it forms the boundary of the two united kingdoms. It takes its rise in the southern extremity of the county, from a well called *Tweedswell*, about 1500 feet above the level of the sea. It runs in a north-east direction, till it receives the waters of the Lyne, when it bends to the east, continuing in that direction till it leaves the county, and enters Selkirkshire at *Gatehaup Burn*. Its serpentine course through Tweeddale, which it divides nearly into two equal parts, is about thirty-six miles; the whole length of its run, from its source to the sea at Berwick, may be about 100 miles.

The principal waters falling into the Tweed, are, *1mo*, From its left bank, *Biggar* water, with its adjuncts *Kilbucho* and *Holms* waters. *Biggar* water rises in Lanarkshire, from a bog near the course of the river Clyde, whose waters, in high floods, overflow into *Biggar* water, and are with it carried into the Tweed; whence the catching of salmon (which has sometimes occurred) in the Clyde, above its high falls, is accounted for. *Lyne* water, with its adjunct *Tarth*; *Peebles* or *Eddlestone* water; *Leithan* water. *2do*, From its right bank, *Mannor* water; *Quair* water. Some other waters, falling into it in Tweedsmuir parish, as *Cor*, *Fruid*, *Tala*, might, from their magnitude, be equally entitled as many of the former to a place in a geographical description; but there is neither actual, nor, probably, practicable cultivation upon their banks, to entitle them to a place in an agricultural survey.

Four waters rise in Tweeddale, or upon its boundaries, which do not pay tribute to the Tweed, or, at least, not within the county, viz. *Maidwan*, which divides its waters at a fulling mill on the west side of Linton parish, sending the water which drives the mill to *Tarth*, and the main stream to the Clyde; *North Esk*, in Linton parish, and *South Esk*, issuing from the *Water Loch* in Eddlestone parish, which join their streams

streams in Mid-Lothian, and fall into the sea at Musselburgh; *Megget* water, in the part of Lyne parish of that name, which falls into *St Mary's Loch*, whose outlet is *Yarrow* water in Selkirkshire, which joins the water of *Ettrick*, and, with it, joins the Tweed a little below the town of Selkirk.

All these waters abound in trout, par, and eels; the lochs *St Mary* and *Water Loch*, already mentioned, together with *Slipperfield* Loch in Linton parish, abounding in perch and pike; the *St Mary* and *Water* Lochs containing also, the first, trout and eel, the latter eels, which, in certain seasons of migration, used to be caught in great numbers, in baskets, at its outlet, the head of *South Esk* water.

Salmon are caught, out of season, in all the waters, and at all times, in Tweed: There is however no fishing upon Tweed, in this county, that can afford any rent.

No water machinery of any kind has hitherto been erected in this county upon the Tweed.

I am indebted to William Brown, mill-wright in Lyne parish, who has erected, and who keeps in repair, the greater part of the machinery in Tweeddale, for the following statements of the water-wheels, with the work they are employed in, which are erected upon the other waters and burns through the county.

STATE, NOVEMBER 1797.

Number of
Water Wheels.

Driving the paint-mill at Lamancha	-	-	-	1
the manufactory of woollen at Inverleithan for spinning, carding, roving, and a fulling-mill	-	-	-	2
a corn-mill, malt-mill, and thrashing-mill, at Kerfield (<i>N. B.</i> the first thrashing-mill in the county)	-	-	-	1
fulling-mills	-	-	-	4
lint-mills	-	-	-	2
thrashing-engines solely	-	-	-	3
corn-mills with one pair of stones	-	-	-	18
corn-mills with two pair of stones, and a vertical running stone for making pot barley	-	-	-	9
corn-mills as above, also thrashing-engines	-	-	-	3
			Total	43

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Besides

Besides the above seven thrashing machines driven by water, either by themselves, or along with other machinery, there were then in the county only nine other thrashing machines driven by two horses each, together with one for a single horse, and two driven each by two men.

December 1801. The following is the Statement :

	<i>Number of Water Wheels.</i>
Driving the paint-mill at Lamancha - - - - -	1
——— the woollen manufactory of Inverleithan, with its fulling-mill - - - - -	2
——— the woollen manufactory at Peebles - - - - -	1
——— the manufactory of felts for paper-makers at Carlips manufactory at Garwell-foot, or at least teasing and scribbling engines, and fulling - - - - -	1
——— fulling-mills - - - - -	2
——— lint-mills - - - - -	3
——— a mill for all corns, for malt, and for a barley-mill, and a thrashing-mill at Kerfield - - - - -	1
——— common corn-mills, with one pair of millstones	13
——— for wheat alone - - - - -	1
——— common corn-mills, with a vertical running-stone for pot-barley - - - - -	10
——— corn-mills with two pairs of stones, and a vertical stone for barley - - - - -	5
——— corn-mills with two pairs of stones, a stone for bar- ley; also a thrashing machine, and one of them a straw cutter besides - - - - -	3
——— thrashing engines solely - - - - -	14
	58

Besides these eighteen thrashing engines driven by water, there are, at this date, also twenty-four thrashing engines driven by two horses each; those driven by hand, or by one horse, seem difused as insignificant. They are erected by all the considerable corn farmers at their own expence—decifive of their utility.

It would appear, from these statements, that thrashing engines have increased, in four years, from sixteen to forty-two in number; and that many other improvements have been made in the machinery of mills. Two other thrashing engines, to go by water, are in contemplation against next season.

Beveled work (considered as a great improvement in wheel-machinery, and first introduced into Scotland, it is said, by Mr Dale in his cotton-mills at Lanark, within less than twenty years) is universally adopted in the thrashing engines, and also in every new erected corn-mill; the mill at Spittlehaugh in Linton parish having led the way.

In the corn-mills with only one pair of stones, the stones are roughed on the surface, to enable them to tear and bruise the grain, by small hand pickaxes. Stones, thus dressed, serve well for making oat-meal, which is relished best when rough in the grain. They cannot grind barley or peas to that fineness of flour which suits the general taste: It is therefore necessary to have a separate pair of stones for that purpose, which are dressed on the surface with small chiseled grooves running in a direction from the circumference to the centre, like as in the stones of wheat-mills; the edges of these grooves clip the grain like scissars, and there is no interstice through which any of the grain can escape, till reduced to the required fineness of meal.

The manufactories provided with teasing and carding engines, get great employ in teasing, carding, and roving wool, from those who make their cloth at home; as it comes cheaper to the employer, after liberal payment to the proprietor of the machine; and the work is done better, and with less waste of materials, than when these operations are executed by hand labour.

CHAP. II.

STATE OF PROPERTY.

SECT. I.—*Estates and their Management.*

As this county consists chiefly of hill pasture lands, producing an herbage, scanty and poor in quality, and more fitted, in general, for rearing sheep, than for fattening them; a large extent is necessary to constitute any considerable value: It may thence readily be conceived, that landed estates are of large dimensions; as also, that single farms must often occupy a large extent of surface, without which, the produce would barely compensate the trouble of attendance and management, but could afford no rent.

Sheep farms are sometimes measured in acres; but the measurement affords no *datum* upon which to estimate what ought to be the rent of the farm, and accordingly never enters into the calculation of either the proprietor, or the farmer proposing to rent it in lease. In estimating their value, the only consideration taken into account, is, what number of sheep have usually been, or may be kept upon the farm, with the quality of the sheep so kept; whether sheep of a different kind might not be kept to greater advantage, such as fattening, instead of breeding stock, or *vice versa*; or whether, without either fattening or breeding, lambs ought not to be bought in annually, to be sold off next season as holding flock; or whether a mere diminution of numbers might not be more advantageous, from diminution of the risk of death, and from the superiority in quality of the remainder, from more abundant feeding; or, in short, whether it might be more profitable to appropriate less of the farm to sheep pasture,

pasture, and more of it to the rearing of black cattle, or to tillage.

The valuation of the county in the cess-books, is 51,927l. 3s. 10d. Scots. The gross rent, including rent of mills, and also about 500l. rent from coal, lime, freestone, and slate, may amount to nearly 26,000l. Sterling. Were an estimate to be made of the free rent, the deductions would be, the provision of the Clergy, (see Statistical Tables), with the building and upholding of their manse and the parish churches, costing, if rebuilt, in each parish, probably about 700l. at an average; the salaries of the schoolmasters, (see Note A), with the upholding of the schools and masters dwelling, costing, if rebuilt, in each parish, probably 60 or 70l. at an average. Some other deductions are not so easily calculated, such as, the upholding of farm houses and mills, &c. with the as yet inconsiderable expence of poor's rates, where established, or of voluntary contributions for their support, where there are no rates.

The whole landed property may be divided among about sixty proprietors; without taking into the account a few small proprietors, possessing lands to the value of 20l. yearly rent or under, around the burgh of Peebles, and some of the villages. Without pretending to any thing like exactness, the proprietors may be distributed into the following classification:

Possessing about, and little exceeding,

in yearly rent,	-	100l.	-	13
From 100l. to		400l.	-	24
From 400l. to		1000l.	-	15
From 1000l. to		4000l.	-	8

—
60

Of the more inconsiderable of these proprietors, perhaps eight or ten farm the whole of their own lands, some of them renting other farms besides; though the farmers renting lands to the greatest extent, are not of the class of landed proprietors. There seems indeed a security produced, from the certain in-

come

come from landed property, where no rent is paid ; which opposes industry, and engenders indolence.

Almost all the proprietors, who reside either constantly, or for a part of the season, farm more or less of their own lands, for convenience, for amusement, or even to a somewhat greater extent ; a very few, to an extent of farm that might be let in lease at several hundred pounds of yearly rent. The practice, however, of taking farms into their own management, for the purpose of letting them in lease, at advanced rents, after high melioration, though there are some instances of it, is but rare among Tweeddale proprietors : Indeed, the far greater part of the lands is little susceptible of improvement by surface culture of tillage ; and inclosure, at least the substantial inclosure of stone dikes, which need no nursing, is as well carried on where lands are entered to upon lease, as when in the actual occupancy of the proprietor himself.

About a fifth or fourth part of the lands is under strict entail ; besides what may be entailed by existing proprietors, whose deeds shall take effect when their own consciousness of the matter shall cease. From a singular circumstance, to be afterwards explained, the lordship of Neidpath, comprehending the half of the lands presently entailed, bids fair to become the most speedily, and the most substantially, improved property in the county.

Of nobility, there were lately six who possessed lands in the county, *viz.* the Earls of Dundonald and of Hyndford, whose lands have passed into a different line of succession from the titles ; the Duke of Queensberry, possessing, *qua* Earl of March, the lordship of Neidpath ; the Earl of Traquair, possessing the estate of that name ; Lord Elliebank, possessing the barony of Darnhall, which, by entail, goes to the second branch of the family ; the Duke of Buccleugh, whose interest in the county is inconsiderable.

The number upon the roll of freeholders, is generally from thirty to thirty-five, who send one representative to Parliament from the county : The burgh of Peebles, in conjunction with those of Linlithgow, Lanark, and Selkirk, sends also one.

By

By much the greatest part of the lands is rented by professional farmers, holding them upon leases for terms of years. Nineteen years was, and is, the prevailing term of endurance of a lease. The recent spirit of improvement, leading farmers to perceive the propriety of launching out their capitals upon ameliorations of very distant return, if only security of possession can be obtained till that return arrives, has raised a demand for leases of longer endurance; and the terms of twenty-one, twenty-five, thirty-one, and, upon the lordship of Neidpath, three nineteens, have of late been adopted. I know not of a single instance, in the county, of a life-rent lease now existing; though, unhappily, according to the legal construction of the right of possession by lease, it may, under various circumstances, occur, that a lease for a term of years may prove merely equivalent to a life-rent lease, or even that the latter may be a preferable security. Grass inclosures, perfectly fenced, being yet but rare, let at a monopoly price. They are seldom let in leases for years, but are usually let for the season by public roup or auction, and are taken by farmers for their young cattle, which eat their Winter's fodder, or by professional graziers or horse-dealers: From two to three guineas per Scots acre is paid pretty commonly.

The number of farmers renting lands to the extent of from 100 to 500*l.* of yearly rent, amounts to about eighty. A much greater number possess small farms, from 20 to 80*l.* of yearly rent.

Few of the sheep farms contain much less than 600 or 700 Scots acres; there are more that contain from 1000 to 4000. Few of these farms pay less than 100*l.* yearly rent. The highest rent paid at present by one farmer for lands within this county, is about 600*l.* yearly. One farmer who resided in this county, paid, at one time, for sheep farms, in this and neighbouring counties, no less than 1700*l.* yearly rent.

The smaller farms, chiefly arable, consist of from 40 to 50 to 100, and, in one or two instances, 200 acres. Two or three of these may pay 100*l.* or 150*l.* yearly rent; the rest being rented at from 25 or 30*l.* to 70 or 80*l.*

The

The following statement, of the mode in which the lands are possessed, (in the parish of Linton, where there is the largest village of the county; in that of Mannor, where there is only a small kirk town of about half a dozen houses; and in that of the united parish of Lyne and Megget, where there is neither village nor kirk town), will convey a tolerable idea of the whole. Perfect accuracy in the statement, is not, however, pretended to.

LINTON PARISH, (from personal knowledge, about the year 1794).

Extent of the parish, 25,472 English acres. The whole yearly rent, about 2,400l. Sterling.

Farmers renting to the extent of from 150 to 200l. yearly rent	-	-	-	-	-	-	2
Ditto renting from 100 to 150l.	-	-	-	-	-	-	7
A proprietor farming his own lands, to the extent of what might let at about 150l.	-	-	-	-	-	-	1
A gentleman renting a proprietor's house and parks at 75l.	-	-	-	-	-	-	1
Farmers renting from 50 to 100l.	-	-	-	-	-	-	8
Ditto renting from 20 to 50l.	-	-	-	-	-	-	12
Ditto renting at about 20l.	-	-	-	-	-	-	10
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							41

Crofters, renting one or two acres around the village of Linton, are not included in the above enumeration.

MANNOR PARISH (from Statistical Account).

Extent, 16,558 English acres. Yearly rent, 1685l.

Farmers paying 220l. yearly rent	-	-	-	-	-	-	1
Ditto paying 150l.	-	-	-	-	-	-	2
Ditto paying 100l.	-	-	-	-	-	-	6
A gentleman renting a proprietor's house and parks at 50l.	-	-	-	-	-	-	1
A proprietor farming his own lands, that might let at perhaps 90l.	-	-	-	-	-	-	1
Farmers renting at from 20 to 60l.	-	-	-	-	-	-	7
							<hr/>
							18

PARISH

PARISH of LYNE and MEGGET (from Statistical Account).

Extent, 16,987 acres. Rent, without including fines at entry, 900l.

Farmers occupying large farms, one of them not residing	6
Miller renting to extent of about 34l.	1
Farmer renting the minister's glebe at 20l.	1
Mill-wright, with a very small possession	1
	<hr/>
	9

SECT. II.—*Tenures.*

THE tenures, by which lands are held, may be classed into *superiority*, *property*, and *tack*, or lease.

Superiority is merely that nominal title to land, which confers the right of franchise. As 400l. valuation of superiority confers franchise, and as, in Scotland, superiority may be retained, when the property of the land is conveyed away, and this superiority may also be fictitiously conveyed in any given portions, it is evident, that, in creating votes, the superiority of the whole valuation, 51,927l. Scots, would give 129 voters at the county election: As, however, the number commonly upon the roll of freeholders does not exceed 30 or 35, it may be readily inferred, that this county has not been much disturbed by the animosities of political contest.

Property is the valuable tenure of land, implying the full command of the subject to all the purposes of human life; excepting, merely, political power, which is attached to superiority, and may, or may not, be attached to the property.

Tack for a term of years, is the tenure by which land is held, by professional farmers, from proprietors, for the purposes of agriculture.

For a more full explanation of this subject, I refer the reader to note B.

C H A P. III.

BUILDINGS.

SECT. I.—*Houses of Proprietors.*

THERE are in the county about 30 houses, (including all those in tolerable repair), belonging to landed proprietors, possessing from 100*l.* to perhaps 3000*l.* of yearly land rent. Of this number, rather more than two-thirds may be considered as ordinary family residences; consisting of from 6 or 8 to 20 or 30 fire-rooms, and constructed upon plans confined to mere purposes of utility, or admitting of more or less degrees of neatness, elegance, or magnificence, according to the various tastes or abilities of their respective possessors.

There are five seats which have been, not long ago, or are now, the residences of noblemen, *viz.* (arranging them in the order of higher up to lowest down in the county) Lamancha, Kirkurd, Darnhall, Neidpath, Traquair; respectively belonging to the Earl of Dundonald, Earl of Hyndford, Lord Elliebank, Duke of Queensberry *qua* Earl of March, and Earl of Traquair, none of whom reside at present, but the last mentioned Earl. Properly speaking, three of them only are ancient family seats, accompanying the possession of the titles, Darnhall, Neidpath, and Traquair.

The situation of Neidpath is, or rather was, the most picturesque of any in the county. The house itself is, indeed, in no way remarkable; being a tower-house of small dimensions, but with excessive thickness of wall, and now ruinous. It stands upon a rock overhanging the Tweed, at the lower end
of

of a wide semicircular bend of that river: the concave bank is very steep, of great height, and wooded for near a mile up and down the river, from its top to the water's edge, forming a vast romantic amphitheatre. Upon the opposite side of the river, a bold projecting wooded bank juts forward into the bend; at the foot of which, lies a small plain, half encircled by the Tweed, suggesting the idea of a snug, sequestered, sheltered situation for an hermitage. This scene lies about a mile above the town of Peebles, where the road, leading up the Tweed, enters upon it at Neidpath Castle; whence it is carried along the middle of the concave bank, being cut out in the rock, and seeming to hang over the water below. To the traveller, by moonlight, the constant shifting of the scenery as he moves along, with the intervening glimpses of the water reflecting the moon-beams through the trees, gives to the whole an air of fairy-land and enchantment. I am sorry to add, that the description no longer applies; the place having been very lately dismantled completely, by the sale of the wood. No blame, however, can attach to the present Noble proprietor. This subject of regret, like many other, falls entirely to the charge of the extravagant extent of the power of entail; imparting to the will of the dead, who have ceased to have any further actual concern, an effect by much too extensive, in controuling the wills of the living and interested. When a proprietor cannot leave his landed property to the natural object of his affection, what else is to be expected, but that he should convert what of it he can into money, which the laws of his country still allow him to dispose of as he pleases? We laugh at the superstition of the Chinese, in paying divine honours to the memory of their deceased ancestors; though it is probable, this their worship is, like that of other people, so managed, as not essentially to interfere with their temporal interests. But might not a stranger to our laws and customs be tempted to tax us of a more than Chinese superstition, in paying to the wills of our ancestors, where they interfere so materially with our temporal interests, as to preclude all power of choice on our part, in some of the most essential parts of their management,

ment, an obedience more devoted and implicit, than what is generally paid even to an acknowledged Divine authority?

It would be foreign to the purpose, and incompatible with the limits of this Report, to attempt to characterise the style of the various seats of the nobility and gentry: these we leave to the architect and designer of policies, our business lying rather with the humbler subject of the accommodation of the farmer and the cottager. I shall just observe, that the mountainous nature of the country affords choice of every variety of situation; so that he, who chooses to expose himself to every wind that blows, may frequently, at this price, enjoy a pretty extensive prospect—of objects, however, not commonly very interesting; whilst he, who is contented to forego extent of prospect, may snugly bury himself under the most complete shelter. There are seats to be found in both extremes of situation; though the middle state seems to have been the more general object of choice. I have subjoined, in an appendix, an account of *Whim*, which, from peculiarity of situation, and particularly from the cultivation there carried on, of the deepest moss soil ever attempted to be cultivated in this county, seemed, in preference to others, to merit a particular description in an agricultural survey.

SECT. II.—*Farm-Houses, Offices, and Repairs.*

FROM various causes, Scotland was more late in being relieved from the oppression of feudal aristocracy, than her sister kingdom; the last act of Parliament to that effect, and for which we are indebted to our rebellion in 1745, being so recent as the 1748. An emancipation *de jure*, when obtained, proves not, however, all at once, an emancipation *de facto*; time is necessary for the mind to habituate itself to the sentiments suited to a new situation; and it is but of late, if as yet, that the feelings of security and independence are as universally prevalent among the Scots, as among the English tenantry.

In former times, the Scots tenant possessed the sentiments and habits of the subject of an Asiatic despot, rather than those

of a free man : destitute of that manly confidence, inspired by the consciousness of security in the equal protection of law, he relied more upon the resources of his own dexterity and cunning ; and the dread of being plundered, made him cautious of displaying such wealth as he possessed, either in improvements upon his farm, or in purchasing such comforts and accommodations as its profits might afford. From his contracted habits of concealment, and from the small degree of wealth which he had any opportunity of acquiring, the Scots tenant was contented to live in the most miserable hovel ; the poverty, too, of his landlord, who could draw little rent from a wretched tenantry, destitute of every proper encouragement to industry, disabling him, even had he been willing, to afford much better accommodation. These hovels, such as they were, cost nothing to the proprietor, but were upheld for ever by the tenant ; it being understood, at common law, independent of covenant, that the outgoing tenant should leave them always to his successor, *in tenantable and habitable condition* : From use and practice, *tenantable and habitable*, had come to imply merely, *wind and water tight* ; and the common style of farm-houses admitted of little more accommodation, than mere shelter from the weather.

In consequence of the firm establishment of monarchy, and the dissolution of aristocracy—of the abolition of heritable jurisdictions, and the substitution of independent Judges, unconnected with the subjects of their own jurisdiction, and having no personal interest in their own decisions—the security of the tenantry, as well as of all the lower orders in society, is confirmed : General industry has kept pace with growing security ; and the situation of every rank is altered greatly for the better. In consequence of increasing sentiments of liberality among the landed gentry, of security among the tenantry, and of wealth in both, the style of farm-houses through Scotland has been much improved. Great improvements, in this respect, have been made in Tweeddale, within these last thirty years ; Sir James Montgomery of Stanhope, late Lord Chief Baron of the Court of Exchequer in Scotland, Sir James Nasmyth of New
Puffo,

Poffo, and Mr Burnet of Barns, having been among the first to set the example.

In building farm-houses, it is the prevailing practice, that the proprietor pays all the outlaid money for materials and wages of workmen; the tenant performing the carriages, and becoming bound to uphold the houses during his tack; the last mentioned obligation having become the less onerous, from slate roofing having come more into usage. In general, no stipulation is made as to payment of interest, for the money laid out upon the buildings; it being rather understood, that a tenant, possessing stock to occupy a farm of the particular extent, is entitled to accommodation in a suitable style. Much liberality, in accommodation of houses, has of late been manifested by Tweeddale proprietors, excepting upon the estate of Neidpath, where, in consequence of entail, the present proprietor, having no more than a mere life interest, cannot be expected to sink money upon the subject.

Sheep farmers can be afforded the best dwelling-houses; as, from their sheep never being housed, they require less extent of farm-offices than corn farmers.

The best farm-dwellings in Tweeddale, are built in a style similar, but somewhat inferior, both as to size, height of ceilings, and quality of finishing, to the dwelling-houses, or *manfes* of the clergy. These latter are of the dimensions of from 34 to 40 feet in length, by from 19 to 22 feet in breadth, within the walls; the door is generally in the middle of the front, whence you enter upon a very small lobby and the staircase; on one hand is the kitchen, with a small division, probably taken off it, for a scullery and servant's bed; on the other hand, is generally the best room, occupying the breadth of the house for its length. When you ascend the stair to the second story, the space above the kitchen may be equally divided, making two small sleeping apartments; and the space above the best room is unequally divided, affording a sort of drawing room, with a small sleeping closet. The garret space, under the roof, may be divided into a place for lumber in the one end, and the other end fitted up with a couple of beds, into what is called a
barrack

barrack room. The farmer, having a greater number of servants than what are needed by the clergyman, is generally accommodated with a kitchen without the dwelling-house, which gives more room, though his dwelling-house is somewhat less than the manse.

The number of farm-houses of two stories with slated roofs, lately built, may amount to somewhat above fifty, without including a few of that description, presently occupied by farmers, which formerly were occupied by the proprietors. The two most expensive farm outcrops (including both dwelling and office-houses) that have been erected in the county, are, I believe, one at Hudleshaup in Mannor parish, by Robert Campbell Esq. of Kailzie, the other at Blythbank in Linton parish, by John Carmichael Esq. of Skirling: the court of the latter, for dungstead and winterers, inclosed upon three sides by the offices, and on the fourth by a wall, contains a space of 100 by 84 feet clear of the buildings*.

Prior to the period of improvement before stated, the most usual construction of the better farm dwellings, was that of a long house of only six feet wall in height; the apartments all upon the ground; the dimensions about 45 by 15 or 16 feet in breadth within walls; no division by partitions within, but the

* Mr Alexander, tenant of Easter Happlew, who, upon security of one of the fifty-seven years leases, granted upon the barony of Neidpath, has built, at his own expence, a dwelling of two stories, with offices, all covered with slate, and who generally thinks for himself, has formed his court of offices into a small square, merely sufficient to contain his dung. His cattle have no access into this court, the offices being all entered from the outside. The dung is tossed from the offices into this court through apertures in the walls; the urine from all the offices runs into a reservoir sunk in a corner of the court; a pump is placed in the reservoir, whence, by means of wooden conduits laid upon moveable supports, the urine is conveyed over any part of the dung. He disapproves of the trampling of cattle upon dung, as kneading it into a solid body, and excluding the air, to the prevention of putrefaction. His winterers, upon straw, are fed in a separate court, whence the dung and litter can be removed at pleasure, to be tossed into the other dung-court; or otherwise lightly laid together, for the purpose of putrefaction.

the cross partitions effected by close beds * set end to end, with a passage betwixt them. You entered at the front, where the door was placed near to one end: On the right hand, we shall suppose, you had a partition of close beds, which cut off a space for a room, and, on the other hand, the similar partition dividing the kitchen from the passage; turning to the left into the kitchen, a similar partition cut off a room from the kitchen. These three apartments, *viz.* a kitchen in the middle, with a room at each end of it, constituted the whole accommodation. The *round-about fire side* (still by much preferred where there are a number of farm servants, and certainly by far most preferable, but for the difficulty of keeping them clear of smoke), was universally in use in the kitchen; that is, a circular grate placed upon the floor about the middle of the kitchen, with a frame of lath and plaster, or spars and mats, suspended over it, and reaching within about five feet of the floor, like an inverted funnel, for conveying the smoke; the whole family sitting round the fire within the circumference of the inverted funnel. Here was placed the *gudeman's* resting chair, or wooden sofa, upon which he sat or reclined after the fatigues of the day, listening, in those times so dearthful of intelligence, to the news collected by the wandering beggar, or feasting his imagination upon the wonders of the lame soldier or sailor who had visited foreign countries.

SECT.

* The close bed is a frame of wood, 6 feet high, 6 feet long, and 4 feet broad. In an house of 15 feet in width, two of them set lengthwise across the house, the one touching the front, the other the back walls, an entry or passage, of three feet in width, is left betwixt the beds. To form an idea of a close bed, we may suppose it like a square-formed upright curtain bed, where the place of curtains is supplied by a roof, ends and back of wooden deal, the front opening and shutting with wooden doors, either hinged, or sliding sidewise in grooves. The bottom, raised about 18 inches from the floor, is sparr'd; this is covered with straw, above which a bag of ticken, or of sackcloth, filled with the chaff of oats, most commonly supplies the place of a feather bed, with bolster and pillows of the same construction.

SECT. III.—Cottages.

HALF a century ago, a great part of the cottages of the Scots day-labourers were built with walls of turf; stone buttresses, or wooden posts, built into the wall, supporting the heavy timbers of the roof: A very few of this description still exist in this county; but the greater part are built of stone and lime. The general description of the cottage of a labourer or tradesman, who keeps a cow, is, a house of 18 or 20 feet by 15 or 16 within walls; the door is in front, close by one of the gables; two close beds form the cross partition, dividing the space occupied by the family from a space of four feet from the gable at which you enter, where stands the cow behind one of the beds, with her tail to the door of the house. There is one window in front near the fire gable, opposite to which, at the opposite wall, stands the *ambry*, or shelved wooden press, in which the cow's milk, and other family daily provision are locked up; and, above it, lying against the slant of the roof, is the *skelf*, or frame, containing shelves, with cross bars in front, to prevent the utensils set upon its shelves from tumbling off from its overhanging position; the show of the house depending much upon the quality and arrangement of the crockery and other utensils placed thus, in open view, upon the skelf. A chest, containing the family wardrobe, stands in front of one of the close beds, serving also for seats. The close beds are also furnished with a shelf at head and foot, upon which part of the family apparel is deposited, to preserve it from the dust. A wooden armed chair for the husband, when he arrives fatigued from his labour, and a few stools for the rest of the family, and a plunge churn, completes the inventory of household furniture; to which only a small barrel for salted flesh, and another for meal, may be added, if the family can afford to lay in stores, and are not from hand to mouth. The cooking utensils are, a small cast-iron pot, in which is daily prepared the oat meal porridge, the universal breakfast, eaten with milk, or with home-brewed weak ale

from treacle, when the milk season is over * ; in which also the potatoes are boiled, as the universal supper, while they last, eaten either with milk, or merely with salt ; in which is also prepared for dinner, through Winter, potatoes dressed with mutton-fat purchased for the purpose, or broth to be eaten with bread, made universally with shelled barley, and kale from the kale yard, and, according to circumstances, either with or without a bit of salted mutton, to give them a relish ; the butter from the cow being all sold fresh, from the high price it bears in such vicinity to Edinburgh, being the chief dependence for money to pay for the cow's Summer's grass, and to purchase her Winter's fodder ; the skimmed milk only being used in the family, in the manner already stated ; or, when most plenty in Summer, serving for dinner broth. The next indispensable cooking utensil, universally in use in every cottage and in every family in the country, is the *girdle*, which is a round thin plate, either of malleable, or of cast-iron, from a foot to two feet and an half in diameter, according to the size of the family. It is suspended over the fire by a jointed iron arch with three legs, called the *clips*, the ends of the legs of which are hooked, to hold fast the girdle. The clips is linked upon a hook at the end of a chain, called the *crook*, which is attached to an iron rod, or wooden beam, called the *rattle-tree*, which is fixed across the chimney-stalk, at some distance above the fire. Upon this girdle is baked the ordinary bread of the cottager, and of the farmer's servants, consisting of *bannocks* made of the meal of peas, or of barley, but more generally of the two meals mixed together,

* Time was, when the character of oat meal was greatly traduced ; being accounted heating to the blood, and the cause of cutaneous diseases, and even of the national disease, the itch. It has regained its character, of late, with the faculty, as subacid and cooling, and is prescribed even for cutaneous disorders. I am inclined to date the restoration of its character from the publication of Smollett's *Humphry Clinker* ; where a rational vindication of its wholesome properties is put into the mouth of Lieutenant Lismahogoe. The itch has almost totally disappeared since the introduction of cleanliness, though the use of oat meal is still persevered in.

together, and more rarely of oats. The meal is made into dough with water without leaven, and the dough is formed into circular cakes of from 7 to 9 inches diameter, and from $\frac{1}{2}$ to $\frac{3}{4}$ inches in thickness; it is then toasted first on one side, then the other, upon the girdle; and two or three days provision are made at once: The bread has but a doughy taste. The oat cake, known by the sole appellative of *cake*, is the gala bread of the cottager: The meal is made into dough with water, without leaven, as little water being used as is merely sufficient to make the meal stick together; the dough is then kneaded, or rolled out, as thin as possible, into a round cake, of diameter corresponding to the size of the girdle; the cake is then cut into four quadrants, and toasted on the girdle, alternately, on both sides, care being taken, both with cakes and bannocks, to prevent the girdle from being so hot as to burn their surface: When the cake is so hardened as to stand on edge, it is placed upon an iron heater, linked upon a bar of the grate, where it toasts leisurely, till it is perfectly dry, though noway burnt; if it hath lain some days unused, it is toasted anew before it is eaten; it thus constitutes a hearty species of bread, of a tonic quality, to judge by the taste; and which, by many Scotsmen in the higher ranks, is preferred to wheaten bread*. There is just one other utensil indispensable to the cottager; which is, a very small barrel, or can, of stone ware, to hold his salt, which he keeps in a hole in the wall close by his fire, to prevent its running, from the moisture in the air: He must also have a wooden pail to carry water; in which his cow is milked, if he has one; on which supposition, too, he must have three cans of stone ware, or vessels of cooper's work, in which the milk is set in the ambry to stand for casting up the cream.

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* In the predatory excursions of our ancestors into England, the only provision they carried was a bag of oat meal; their only camp utensil was the girdle; as for cooking flesh, their way was, to boil a cow in her own skin.

I have entered the more largely into the description of the food of the cottager, as farm servants are fed much in the same way, excepting only that they may more often have broth made with flesh, and flesh, or cheese, or eggs, more frequently for dinner along with the broth.

The most artificial food used by cottagers, or farm servants, is *fowins*. When oats are to be made into meal, the grain, being dried, is made to pass through the mill, the millstones being set at such distance as merely to strip off the husk without bruising the kernel; the husk is then separated by the fanners: As the grains are, however, of unequal size, the whole is again returned to the mill, with the stones approaching a little nearer, by which the smaller grains are *shelled*, or shelled, without bruising the kernels shelled by the first operation: The husks, or *shilling seeds*, are again separated by the fanners, when the *shilling*, or naked kernels, are committed to the mill, with the stones set so near as to grind them into meal. As some of the shells, however, still remain among the meal, they are separated from it by hand sieves: These shells, thus separated, and having the finer particles of the meal adhering to them, called *mill seeds*, are preserved for fowins. A quantity of them are steeped in water for eight or ten days, according to the heat of the weather, or of the place where they are deposited, when they undergo the acid fermentation, to be judged of either by the smell or taste; they are then well wrung in the water, and the whole is decanted through a drainer into another vessel, the drainer keeping back the husks: After the decanted extract has deposited the fine particles with which it is impregnated as a sediment, it is poured off; fresh water is poured upon the sediment, which is well stirred, and allowed to settle for twenty-four hours, when it is also poured off: This washing is intended to correct the acidity, and is repeated till the water retains only such subacidity as is grateful to the palate. When this is attained, that water is poured off, and such quantity of fresh water added, as, when the sediment is well stirred with it, shall bring the mixture to the consistence of thin gruel, or cream, when a portion of it, sufficient for a meal,

meal, (always the supper meal), is boiled in a pot, in which it thickens; so that, when poured into a vessel to cool, it acquires the consistence of a thick jelly. Against the supper hour next night, recourse is had again to the store vessel, when the water is poured from the sediment; and it is again brought to its proper consistence by fresh water, and the quantity needed put into the pot, &c. so long as the prepared store lasts. The fowins thus prepared, are eaten either warm with cold, or cold with heated milk. They are a food of very easy digestion, having somewhat of a diuretic quality, and are extremely pleasant to most palates. The feeds, from the different makings of meal (*melders*) through Winter, are preserved till the potatoes are exhausted; when they afford fowins, for a supper dish, till the potato season comes in again. Sowins are used by the weavers as a dressing for linen yarn for the loom.

Substantial labourers or tradesmen have generally two apartments in their cottages; the cow, standing in a separate to-fall building; the kitchen is formed by two close beds, as a partition, in the manner already described; the room is formed by a Galashiels partition * run across the house. This economical partition is formed of perpendicular standards from the ground to the ceiling, of three-fourth inch deal, from three to four inches broad, according to the thickness of partition required, and set about three feet asunder: A flat board (commonly an old door) is clapped flat against the standards on one side; and a mason, on the other side, builds up the interstices betwixt the standards with small chips of stone and lime mortar, the old door keeping the work straight on the side opposite to him. At every three feet advance in height, he lays a cross binder of wood upon the masonry betwixt the standards, close fitted to their interval, and to which they are nailed. When the whole is thus completed, the surface is smoothed with plaster lime. Partitions might be made of this kind with folding doors, and roof of lath and plaster, which might serve the purpose

* I call it so, having first seen it used at the village of Galashiels in Selkirkshire.

purpose of close beds; and poor people might find it more easy to pay interest for the advance, than to purchase the close beds, which, in this dearth of wood, may cost from forty shillings to three pounds each.

Cottages, as described, are covered with thatch, excepting in the villages of Broughton and Eddlestone, which were rebuilt on regular plans, with slated roofs, by the proprietors of the manors, as vistas from their own mansions.

Fern is reckoned a more durable thatch than straw, and heath than fern. Lint is reckoned a very durable thatch, and has been reared for the purpose; the seed, sold to oil mills, paying in some measure as a crop. Basket willow might, probably, in many respects, prove preferable to any of them. Tile is not in use, almost, in this county; from a dread that it could not endure the rigour of our Winters; but chiefly from its constant exposure to breaking in low houses. The most general thatch used, (till the two Winters 1799, 1800, so dearthful of fodder, introduced the more general use of heath), is the straw of *big*; applied to this purpose, as being less valuable as fodder: It is either sewed to the cross spars of the roof, by tarred twine; or the roof is first covered with *divots* (sod raised by the paring spade) laid on, overlapping like slate, with that end only exposed which hath received a knead or glassing by the first entry of the paring spade; when, after standing one year, the thatch, in small handfuls, twisted together at top, is thrust into holes previously made obliquely upwards in the divots by an iron-shod, dovetailed-pointed hand instrument (called a *sling*), by which both operations are performed, in alternation. Heath is neither sewed nor slinged; excepting the first course along the heads of the walls, which is sewed to the spars. It is then laid on, in courses from gable to gable, every course being beat close with mallets, and the top either secured (like other thatchings) by a ridging of fods; or, the angle of the roof being received into two deals set at angles, and the seam of their juncture secured by a hollowed batten of wood; a row of sod being used (as in all thatchings) to join the thatch to the slope of the gables.

A considerable number of day-labourers and artificers are accommodated with houses in the villages, which they rent from year to year. In Linton, and in some instances elsewhere, they possess them sometimes (less to their profit) in perpetual right of property, constituted in form of feudal tenure; or rent them yearly from proprietors of this description. When two farms, originally separate residences, are joined into one, the superfluous houses (not occupied by the subtenant, to whom the sheep farmer sublets the houses and arable land of that sheep farm where he does not reside) are let to labourers or artificers. Sometimes the labourer, or tradesman, takes ground in lease of twenty-one or twenty-five years from a landed proprietor, generally by the sides of highways, for an house, garden, and cow's maintenance for Summer's grass, or for both that and Winter's provender. He builds the house at his own expence, the proprietor furnishing the price of wood, and the wages of the mason and carpenter; and, after the expiry of the lease, it reverts to the proprietor, who again lets it in lease. Proprietors who reside, build accommodations for their tradesmen and labourers, for whom they have occasion; and when the lands in their occupation come to be let in lease, the farmer accommodates independent tradesmen with such houses, or lets them fall to ruin, if there is no demand for them. *

Upon the separation of farms from their state of townships, runrig, and commonry, (to which they had been driven, for mutual defence, in times of turbulence), into distinct possessions with separate residencies, the farmer, who obtained possession of the farm upon which the clustered dwellings had been erected, might have a superfluity of houses to dispose of to cottagers; and in a state of society, where the little extension of arts and manufactures afforded few outlets to profitable employment,

more

* We have nothing of the pastorico-poetical *mania* in this county; which would lead to the erecting of cottages for idlers, for whose labour there is no demand, for the mere pleasure of exciting poetic ideas. Our spare funds find sufficient occupation in removing real distress; we can afford none for the creation of representations of imaginary happiness.

more people might be found who would rent such houses or cottages, though there was small demand for them as country labourers, from their finding nothing better to do: Such situations would be, however, deserted, when better employment occurred to their occupiers; and I doubt not but such ameliorations may have often suggested notions of those ideal distresses so graphically depicted, and so pathetically deplored, in Goldsmith's fanciful poem of the *Deserted Village*. The notion of whining over the desertion and depopulation of the country, is now abandoned to idle and ignorant sentimentalists, who are left to lament, at pleasure, the loss of those enchanting fancied scenes of rural content, and cottage innocence and felicity, which no man of sense believes ever to have had an existence but in the imagination of the poet.

Cottages have been built, and cottages have been deserted, according to the local or general demand, or want of demand, for them. Amelioration of agriculture as to the situation of farm-houses, giving more of them to one place than there was demand for, occasioned their desertion in such situations. The union of farms may sometimes also have the same effect; and the growing improvements of surface-culture may occasion a fresh demand for labourers, and of cottages for their accommodation. The old system, however, of restricting the cottager's labour, in hay time and harvest, to the farmer from whom he rents his cottage, is probably not very eligible for either party: If the cottar is bound, as was customary, at low wages, or at no wages, this must be compensated to him in the lower rent of his house, or in privileges of sowing barley, lint, or potatoes, and carriage of fuel: It might be equally advantageous that every thing should be paid for on both sides at market price, which might diminish temptations to evasion in performing the terms of the agreement.

The separation of professions is indispensable to their perfection*. The tradesman and labourer ought to have no more
land

* The converse of this proposition seems also to hold true; and the minute knowledge of detail seems inconsistent with enlarged views. It would be no recommendation

land, than grafs for his cow, and perhaps a garden of fuch fize as could be laboured at his fpare hours, which would be particularly healthful to thofe of fedentary profefions. If he gets fo much land as requires ploughing for Winter's fodder, the lofs of time he fuffains, and the diftraCTION of application which enfues, (in hunting after farmers, who keep horfes, to plough for him, for favour or for hire, and in attending to the culture of his crops when growing), in general foon difqualifies him from carrying on the bufinefs of his profefion with much fuccefs. Many tradefmen in this county are reduced to this fituation; being obliged, from neceffity, to bungle on in the beft way poffible. Where it is to be had, and where, from vicinity of refidence, it is equally convenient to all interefted, a grafs field, or a grafs inclofure requiring no herding, rented in common as a cow pafture, from a proprietor or farmer, is the beft accommodation in this way for tradefmen; and as for Winter fodder, to purchafe it in the market. Unhappily, however, the monopolizing fpirit of the landed proprietors, jealoufily reftricting the confumpt of the fodder to the farm that produces it, ftands in the way of this moft eligible mode of the cottager's accommodation. Indeed, except in the cluftered refidence of fome of the villages, this moft advantageous mode of having grafs cannot be attained to; but a fingle cow is grazed at the expence of an herd to attend her. Such as are not burdened with the additional diftraCTION of land to be cultivated for their cow's Winter fodder, have ftill, as yet, contrived to obtain that accommodation; either in the expenfive purchafe of fown grafs hay, (which the fpirit of reftriction has not yet doomed to be confumed upon the farm where

H

it

commendation of a ftatesman, that he was perfectly skilled in the practice of weaving; nor of a prefident of an Agricultural Board, that he could vie with a miller or a butcher in judging of the yield of grain or the weight of a bullock. The fubdivifion of labour would feem carried to a ridiculous excefs, in the conftitution of France; where haranguing is the exclusive privilege of one part of the representation, and judging, of the other: Or, does a Frenchman, neceffarily, fe heat himfelf, when he fpeaks, as to be incapable of judging with difcretion?

it grew); in that of straw fodder, from farms held by older leases, unsubjected to restricting clauses; or in that of growing corns sold by public roup, upon the termination of leases by conventional expiry, or the tenant's bankruptcy; as against such disposal, in such circumstances, the restricting spirit has not as yet universally lifted up its testimony.

The perfection of improvement would seem to infer the complete separation of every profession: The occupation of every inch of the lands by professional farmers; and the clustering of labourers and artificers into central villages, so completely detached from the occupation of land, as to buy even their milk, as well as every other kind of farm produce, from the farmer by profession; perhaps, even the professional carter, to be so insulated within the business of his profession, as to purchase from the farmer every article of his horse's provender. Such a completion cannot, however, exist, but in a country rich in produce by nature and cultivation, and possessing a very numerous population: but it is the tendency of the efforts of self-interest in every individual to produce an approximation towards it, so far as circumstances will admit. Meantime, it were idle to attempt, by political regulations, prematurely to enforce the adoption of such arrangements as will, of their own accord, ensue in the natural course of things. It were still, however, more absurd, to counteract, by regulation, these natural tendencies towards amelioration, by forcing the land into small cottage possessions, where there is no demand for such minute division; either in yielding to the Cockney apprehension of that bugbear the monopoly of farms; or to the enthusiasm of sentimentalists, wishing to embody their poetic conceptions, by the *gratuitous* erection of cottages; which must necessarily transform their occupants, from independent labourers, paying in work for what they receive in wages, into subject dependent beggars*.

CHAP.

* See Note C at end of volume.

CHAP. IV.

MODE OF OCCUPATION.

SECT. I.—*Size of Farms—Character of Farmers.*

AN account has already been given of the actual size of Tweeddale farms, (pages 28—33).

That the largest possible disposable produce may be raised, at the least expence upon that produce, in a sheep farm, so as to enable it both to send more goods, and of better quality, to market, and, of course, to afford most rent to the proprietor, it ought to be of sufficient extent to admit of distinct *hirseling* and *herding*; in such a manner, that each distinct *hirsel* should be sufficiently numerous to occupy, completely, a distinct herdsman, without which he must be kept, to a certain degree, idly and unprofitably. If sheep farms are either too small or too large for this purpose, the public mind may satisfy itself upon this head, that all such inequalities of excess or deficiency, will infallibly rectify themselves, so soon as agricultural stock is sufficiently abundant, by the offer and acceptance of higher rents for such farms, under the most proper construction, as to size, for their most productive and most profitable occupation,

In the course of the actual demand in offers of larger rent (which can alone be afforded upon the supposition of larger disposable produce raised at less expence), the sheep farms in Tweeddale have passed through various revolutions, in regard to their size,

Before

Before the extension of trade and manufactures afforded so many outlets to profitable occupation, it is probable, that, upon the death of a farmer, his children, having no other profitable occupation in view, would continue the possession; either agreeing to manage it, without division, as a common concern; or dividing it amongst them into minute separate possessions. Upon the former scheme, their management would be subjected to every cause of inefficiency, originating in discrepancy of views, or discordance of will; upon the latter scheme, to all the inconvenience and expence of keeping, in a constant state of preparation, a *reservoir* (so to speak) of labour, to effect what could never pay for it: to which may be added, too, the temptation, or even the necessity, of forcing corn to grow (for maintenance of such superabundant population), in considerable despite to nature, and at such disproportionate expence of the labour of men and horses, as, in other occupations, or more favourable situations, might have produced a tenfold greater profit. Such unprofitable occupation, in minute division, or under heterogeneous discordant management, must necessarily (from the offer of larger rent than it could afford) have soon been made to give way to a more productive occupation, in undivided possession, and under single unthwarted direction: accordingly, such conjunct, or minutely divided possession, has very generally ceased through the county*.

In the deficiency of farming stock, or skill, or both; superior stock, or even superior skill and enterprise, with that credit which is given to confidence, have sometimes dislodged what was deficient: And, accordingly, instances have already been

* The farm in Tweeddale which had admitted of most rise of rent, at the time it was let, is one at Inverleithan, partly arable, partly sheep pasture. It was entered to at Whitfunday 1795, at the yearly rent of 350l.; it had, immediately before, been possessed by three or four tenants, in conjunct farm, upon a lease of nineteen years, none of whom are understood to have enriched themselves, though their yearly rent was only 125l.

been given, of one farmer, in particular, renting, at one time, to the extent of 1700*l.* of yearly rent. But, in consequence of the more universal diffusion of agricultural skill and enterprize, with the more general acquisition of farming capital, such monopolists have been gradually hemmed in to an extent more suited to their capacity of superintendance; in course of the effectual demand for farms of more manageable extent, in offers of higher rent. I speak under correction of the inhabitants of the county; but assert, according to my own observation and best information, that, during the time elapsed since the termination of the American war, (a period of most rapidly progressive improvement to Scotland), the instances of the division of sheep farms into separate possessions, in this county, very considerably exceed, in number, the instances of their union into single possession.

The acquisition of superior skill, in regard to productive surface culture, but particularly the greater demand for carters and carriers to perform the carriages of coal and lime, &c. to the larger farmers, (who generally esteem it cheaper to hire their carriages from professionalists, that they may attend, without distraction, to their own professional vocations), have raised a demand for small arable possessions, of different, though all of small extent; whose possessors pay their rent, and maintain their families, partly by the produce of their dairies, partly by performing the carriages of the larger farmers, or sometimes working upon the highways. The greatest number of those minute occupiers will be found in those parishes that lie nearest to the town of Edinburgh, and which also are those which are nearest to the coal and lime of the county; where the opportunity of disposing of dairy produce to the highest advantage, and the vicinity to the materials of the carriage for which there is the greatest demand, enable offerers to come forward with an effectual demand, in offers of higher rent, for such minute possessions. My readers, I suppose, will have no hesitation in believing, that the existence of a constitution of such minute occupancy, is not to be ascribed to any capricious principle of sentimentalism in the Tweeddale proprietors of land,

land, under whom they exist ; but to the more steady principle of their self-interest ; to which we may apply the lines applied to the stomach by Prior, in his *Alma*,

— of which it is the solid stroke
That tells our being what's o'clock.

I have ventured to detail my notions of the fixed principles which uniformly operate, both in dilating farms to their proper size, and also in circumscribing them within their proper bounds, in note D at the end of the Report.—I proceed to

The Character of Farmers.

And here I shall just state a few particulars as to the character of Tweeddale farmers, and the influence thereby produced upon the *introduction of the improved system of farming*; reserving what I would suggest as to the *generic character of the farmer*, to the note D.

The sheep farms being the most extensive farms in Tweeddale, and requiring the greatest extent of capital, the storemasters, of course, constitute the most opulent class, and are the most informed. From near vicinity to markets, they generally transact all their own business in person, without intervention of a middleman ; and are, by consequence, formed to habits of acuteness, and activity in business ; and have the more opportunity of acquiring some knowledge of the world. That customer would, nevertheless, be a very simple fool, indeed, who should expect to obtain a cheaper bargain, *at first hand*, from a Tweeddale sheep farmer, selling his goods himself, than what could be got from a *middleman* or *foretaller* ; who (according to the suggestions of anxious fear in dearths) will force the markets at his own option, because he will not go without his profit. I am rather of opinion, that there is more probability the foretaller might be obliged to relinquish his expectations of profit, than that he should be able to sell the commodity to greater advantage than the Tweeddale farmer himself,

himself. Betwixt these farmers and such permanent customers as are in use to buy, in wholesale, their sheep and their wool, a liberal system of intercourse prevails, from a sense of mutual interest; insomuch, that the goods are often bought before being seen, or sold and delivered without fixing the price.

A similar liberality in dealing sometimes also takes place between the possessors of the smaller arable farms and their corn-merchants. This class are generally, now, industrious; some of them considerably enterprising. Till of late, the habits of all the farmers led them rather to *save*, than to *make* money; to study œconomy in expence, rather than the liberal outlay of capital, in expectation of a more plentiful return. The small arable farmers, possessed of less capital, and generally obliged, not merely to oversee, but to work upon their own farms, are necessarily more confined than the sheep farmers, in their range of observation, and their means of information; which seems the chief cause of the lateness of introduction, into Tweeddale, of improvements in the cultivation of the soil; such improvements being of less interest to the extensive hill sheep farmers, who otherwise, from their more enlarged opportunities of information, might have been expected to have sooner adopted them.

Both classes, very properly, discover a considerable degree of tardiness in adopting modes of improvement introduced by gentlemen farmers, in farming their own properties. They are disposed to consider such improvers as admirers of the *curious*, as much as of the *useful*, in farming; and are disposed to lend but doubtful faith to the accounts of the profit of such schemes; looking upon them as the mere exaggerated statements of servants, wishing to curry favour with their masters, in flattering them with the idea of the utility of their experiments, rather than as the result of that accurate observation and rigorous calculation which are, in a great measure, incompatible with the numerous avocations incident to the station of such improvers. Unlike to the political reformers of the late seasons of dangerous speculation, when innovation, merely as such, was considered as improvement; they are reluctant in
relinquishing

relinquishing the sure and trodden path of long experience for mere unascertained theory, whatever brilliant prospects it may hold out. Though slow to change, they are not, however, so bigotedly wedded to old practices, as to reject such improvements as have stood the test of repeated and unequivocal experience: And the new improved system of husbandry has, accordingly, at last, found its way into general practice.

This improved system, which may be shortly characterised as comprehending the ameliorating rotation by green crop fallow, and artificial grasses, had been practised, upon a small scale, by gentlemen proprietors farming for amusement, and perhaps by one or two farmers, considered by the generality rather in the light of gentlemen farmers, near forty years ago; and many unsuccessful attempts were successively made to introduce it into general practice among professional farmers. In some instances, it was attempted, by allowing the farmer a deduction of rent for each acre kept by him under green fallow crop; a mode, in particular, adopted by Mr Kennedy of Romanno: But a practice, to which, apparently, the farmer needed to be bribed, had not the appearance, with the public, of a practice which was for his advantage; and the examples, in this way produced, met with few imitators. Others endeavoured to entice farmers from improving counties to settle upon their estates; very properly judging, that the example of such professional farmers would weigh more with their fellows than that of any gentleman farmer who had no rent to pay. But, as it is extremely difficult to prevail with such as are successful at home to desert their connexions for a land of strangers, the persons, thus introduced, proved, in general, mere desperate adventurers; who, having nothing to lose, sported fanciful and injudicious schemes, at the risk of the proprietor; till they were dismissed, after exhausting the pockets and patience of their employers, by a continued series of unproductive expence.

Nevertheless, the new husbandry was at last introduced by means of professional example: And I have no hesitation in ascribing its present prevalence to the example set by Mr James
M'Dougal,

M'Dougal, farmer in the village of Linton, originally from the neighbourhood of Kelfo, and trained under the celebrated Mr Dawson at Frogden. Being possessed of only a small capital, but his ideas of improving farming, inferring a much more liberal outlay of capital upon equal extent of land, than what corresponded with received usages, he entered, upon lease, to a farm (very small in proportion to what would have been considered as suited to the extent of his capital) at Linton, in the year 1778; which farm he still occupies, with considerable additions: the land, suited to constant rotation of cropping, being a pure brown sand soil; the hill pasture land being very thin, moorish, or hazel soil. The arable land, intended for constant rotation of cropping, he immediately began to prepare for the Norfolk turnip-soil rotation of four, viz. 1st, Green fallow crop of turnip or potato, to which is applied the whole dung collected upon the farm; lime being also used, at first going over, to the extent of twelve or fourteen single-horse cart loads of lime shells *per* acre, and applied previous to sowing the turnip, and after raising the potatoes: 2^d, Big or oats; grass seeds being sown with the crop, at the rate of 10 lb. of Dutch red clover, 2 of white clover, and about a bushel of rye grass *per* acre: 3^d, A crop of hay; the after growth either cut for green house-feeding, or pastured: 4th, Red oats; when the rotation begins again with green crop fallow. At the same time, he commenced a species of improvement, till then almost equally foreign to the practice and the notions of either landed proprietor or farmer, in fallowing, liming, and, where attainable, dunging also his outfield hill pasture; for the purpose of sowing it off with grass seeds, for sheep pasture, with the very first crop. For a while, his neighbours could hardly be seriously persuaded that he farmed at his own risk; conceiving of him rather as a mere agent for the proprietor: But, being convinced of their mistake, and witnessing his success, they, at length, began to think of becoming proselytes to his system. The example first spread amongst the small arable dairy farmers; from the obvious advantage seen to result to the dairy, in consequence of the more abund-

ant green house-feeding thus procured for the cows, by cut grafs for Summer and Autumn, and by turnip through Winter, besides fown grafs hay for the Spring months: and a practice, radically founded upon the same principles, may be now considered as univerfal.

In the extensive uninclosed hill fheep-farms, the dairy is neceffarily a matter of trifling import, from the next to impossibility of appropriating a diftinct walk to cows: The new fyftem was, therefore, looked upon with indifference by the ftore-mafters, till about the year 1786 or 1787. When M'Dougal applied his turnip to the purpose of feeding fheep of the native breed of Tweeddale, which, for a while, it was fuppofed, would not take at all, to the eating of turnip; they were cheaply inclosed upon the field by nets, their horns (with which this fpecies are liberally provided) being fawed off, to prevent their entangling in the inclofing nets, an operation feemingly attended with no risk or detriment to the animal *. The fheep farmers now faw clearly the advantage to be derived from a practice, which (by enabling them to prolong the feed of their caft-off breeding ftock through part of the Winter, inftead of hurrying them to glutted markets, as formerly obliged to do upon the failure of the grafs), put it thus in their power to obtain a better price; and that, not only by procuring a longer range of marketing feafon, but alfo from the additional improvement made upon the carcafe of the animal. The advantage was equally obvious, of thus fecuring a certain quantity of regular fupply of hay for their holding ftock in Winter ftorms. As might be readily expected, the example, when it once took effect, was, by much, more rapidly diffufed amongft this clafs: Infomuch that, I have the beft reafon to believe, there is not now a fingle fheep farmer in Tweeddale, who has land fit for the purpose, or length of leafe fufficient to make it worth

* They are cut off, within an inch of the skull, by a hand faw: Cautery, formerly ufed, is now omitted, the lofs of blood being no greater than what is deemed falutary: It is judged moft fafe to perform the operation when the weather is fresh and cool. Where wooden flakes are ufed inftead of nets, there is no need of cutting the horns.

worth while to alter his practice, that has not already reduced, or is not reducing, his croft land, at the least, under a system of management corresponding to the principles of the aforementioned rotation of four *. Farther than the corn lands adjoining to the farm houses, and easily herded, because always in sight, this system cannot be carried with any degree of convenience; nor even thus far, without considerable inconvenience, whilst the lands remain uninclosed.

In the diffused population of the county, each individual is distinctly recognized, and the check of mutual observation has a strong influence in producing regularity of morals, an influence unhappily wanting in great towns, where the clustered population renders the individual indistinguishable; making them the resort of the profligate for concealment, and the seminaries of every sort of corruption. The prevailing characteristics of the lower orders in this county are, sobriety, industry, and a sense of religion; with the exception of a few instances of perversion of principle, occasioned by the introduction of the French philosophy, and those, too, chiefly confined to the county town. A good many, who have not married early, or who have got thrifty wives, and families not very numerous, have a little money saved. Shepherds, kept by their vocation at a distance from temptations to social expence, are generally wealthy for their station; and the competition of their capitals, sometimes procures the division of large farms. Bating sickness, accidents, families more than ordinarily numerous, and such other circumstances as may produce straits, without fault or mismanagement, there subsists, in the generality of the lower classes, a spirit of independence, which revolts against the idea of subsisting upon charity: Happily, indeed, poor's rates are not so decidedly established by law or practice, but that subsistence, not gained by personal industry,

* In one of the higher sheep farms of Weddale, where the plough had never been used, the farmer, within these few years, has brought into tillage ten or twelve acres of land; induced to adopt the practice, for the purpose of procuring turnip for carrying on his cast-off breeders, and likewise some hay for his sheep in snow storms.

industry, is still considered as *charity*, and not as a *right*. Most of them contrive, by their own industry and frugality alone, not merely to feed and clothe their children in a decent manner, but also to give them education, so far as learning to read: Very frequently, they are also taught writing, and a little of arithmetic; though more commonly the young people themselves obtain these last mentioned branches of education from their first earnings of wages, by attending night schools in Winter, after their working hours. A profligate head of a family, who dissipates, in idle extravagance, the means intrusted him by Providence for the maintenance and education of his family, is a character rarely to be met with. Not only do parents endeavour to support their children in an independent manner, but children, also, are seldom deficient in endeavouring to assist their aged parents, according to their respective abilities; and there are not wanting instances of day-labourers supporting aged parents past their labour, without being indebted to any charity whatsoever.

We are apt to form unjust estimates of the characters of people in situations different from our own, by referring to a wrong standard. The same industry to obtain gain, with the same penurious attention to the economizing of its expenditure, which would disgrace a person in an affluent situation, are indispensably necessary to the maintenance of respectability of character in the poor; the want of them directly leading to abject dependence and beggary, to dishonesty and ruin. The rich are, however, sometimes apt to despise, in the poor, as mean, those habits which would indicate meanness only in a situation of affluence; overlooking those manly efforts of fortitude and self-command, which are exerted under straitened circumstances, in maintaining the noble sense of independence, and the consciousness of inflexible probity—efforts to which, from the delicacy of their own education, they might find themselves to be altogether unequal, but which, no doubt, are more easily supported through force of habit. The poor, meanwhile, are equally incapable of granting superior latitude to the rich, in point of expence: Without incurring from it the same profligacy,

fligacy, which, in their own situation, would be the infallible result, and not duly considering that this greater liberality of expenditure is the cause of independent support to many of the industrious; they are sometimes apt to comfort themselves, under a sense of inequalities of condition, by adopting the idea of a future retribution, upon the model of the parable of the rich man and Lazarus, generalized without limitation or restriction.

Mode of Managing Farms, with their Produce.

Though none of the sections, in the schedule of the form prescribed for the Reports by the Board, would indicate a direct and continued discussion of this subject, I have thought proper to introduce it, as a separate section, under this chapter of the *Mode of Occupation*; that it may be seen, under one view, to what purposes the farms in this county are applied, and what kind of produce they yield, from which the farmer is enabled to pay his rent, and to obtain his own profit.

For the sake of distinctness, this section may be divided into two parts, I. *The management of sheep pasture farms*; II. *The management of arable farms*.

I. Management of Sheep Farms.

In some of the large sheep farms, where the farmer does not reside, as also in others where he does reside, plough culture is unknown, or used only to a very small extent: The meal, for family maintenance, being bought in; the cows and horses, for family use, being supported chiefly, or entirely, through Winter, upon such coarse natural hay as is found upon the farm without culture, consisting chiefly of *sprits*; and the sheep, in Winter storms, being either driven to other parts of the country, where there is more access to the pasture from less depth of snow, or where fodder can be obtained; or else fodder being bought in to them from other places, when there is carriage access to the farm.

The

The generality of sheep farms have, however, more or less arable land attached to them. In a few instances, the arable land may form the principal dependance, the sheep being rather an accessory; or they may be nearly balanced in point of importance.

It would lead to endless and superfluous minuteneſs, to ſtate the various proportions which the ſheep and the arable lands bear to one other, as to their importance in point of profit, in the various ſheep farms of the county. It will ſuffice, to convey a general view of the ſubject, *firſt*, to ſtate the general management of ſheep in ſheep farms; *ſecondly*, to ſtate the management of the arable lands attached to ſheep farms.

Firſt, Management of ſheep in ſheep farms.

Tweddaldale being, in general, more adapted to breeding than to feeding, the great article of ſale from the ſheep farms is young ſheep for holding ſtock; though, ſince the practice has become generally prevalent within theſe thirty or forty years, of keeping fewer ſheep upon the ſame extent of land, probably more are fattened for the butcher, than under the antiquated practice of overſtocking the paſture.

The great article of ſale, formerly, from the breeding farms, was the ewe and wedder lambs, kept on through Winter, and ſold in the end of the enſuing June, or beginning of July, at fourteen or fifteen months old, and called at that time ewe or wedder *hogs*. Of late, ſeveral ſuch farms, inſtead of keeping the lambs through Winter, diſpoſe of the lambs in June or July, at three or four months old, in the ſame ſeaſon in which they are lambcd. The ſale of hogs is at Linton markets, whence they are bought for the Highlands of Scotland, for the Oichil Hills in Fifefhire, or for Lammermuir in Eaſt-Lothian, where they are kept on to a proper age, and either ſold fat, or ſold for farther fattening, to the Lothian graſs parks, or to England. When ſold as holding lambs, they are generally bought in to the Upper Ward of Lanarkſhire, whence they are ſold, next ſeaſon, as *hogs*, at Linton markets, as above. A few, both of holding lambs and of hogs, are diſpoſed of at the
markets

markets of Stag's Hall in England, and of St Boswell's in Roxburghshire.

There are breeding farms in Tweeddale, where (as in the farms of the Upper Ward of Lanarkshire, just mentioned) no breeding stock of ewes are kept, and no lambs produced; but which buy in, annually, lambs in the end of June or month of July, which are sold as hogs, after being kept a twelve-month.

In some few very high lying stormy lands, hogs are bought in annually, and sold, after being kept twelve months, as *dummonds*. In one or two instances of farms of this description, the hogs bought in, are kept for two years; and, being then three years old, are sold off for farther feeding, under the name of *old wedders*. The greater part, however, of old wedders, to be found for sale in Tweeddale, are merely those which are kept on, because they were not in condition for the market, as hogs or dummonds.

There are a few breeding farms, where all the lambs are sold fat for the butcher; none being retained, but what suffices to keep up the breeding stock of ewes and rams.

There are a very few farms of fine grafs, which keep no stock, or very little stock, upon them, through Winter; ewes, heavy with lamb, (consisting of the cast-off part of the breeding stock of breeding farms in this or other counties), being annually bought in, from the month of March forwards, at House of Muir markets, but oftener at Peebles fair; and the whole, both lamb and dam, sold off fat from the grafs, to the butcher; the dam being still farther fattened, upon turnip, after the failure of the grafs, if the farm hath arable land attached to it fit for raising this crop. Inclosed grafs parks are frequently depastured by sheep after this fashion of farming.

Besides these annual sales, the farms which keep a breeding stock of ewes, sell off, annually, a portion of their old breeding ewes, before they begin to fail with age; viz. a fourth, fifth, or sixth part, at the ages of four, five, or six years, according to the length of time to which they preserve their vigour, which varies in different farms; a proportional quantity

of

of ewe lambs being preserved annually to supply them. These cast-off breeders, or *crocks*, are sold fat from the grafs at Martinmas, or still farther fattened upon turnip, or for the purpose of being fattened by turnip feeders: But farms of this description, which have attached to them a considerable quantity of low arable, or meadow ground, for Winter pasture, generally give the *crocks* the ram, keep them on through Winter, and sell them, heavy with lamb, in the month of March, at Peebles fair, or House of Muir markets: the cast-off rams, in the proportion of one to forty *crocks* or so, are sold in September or October, before their flesh grows rank from rutting. It may be also noticed, that farms selling *hogs* or *dummonds*, have also a few dummonds, or old wedders, to dispose of; being the rejectaneous ones kept on for another season.

Such are the sales of sheep from sheep farms.

Wool is also an article of sale from all the sheep farms, excepting those which annually buy in lambs and sell them rough, after a twelvemonth's keep as *hogs*. A small quantity is sold to Stirling, a greater to Hawick, and the greatest part to Yorkshire, for ferges, for shalloons, for carpets, and coarser cloths.

Sheeps milk cheese is sold from a few of the farms; the practice of milking the ewes has, however, of late, been more disused; the detriment accruing to the ewes being considered as overbalancing the profit from the cheese: The enormous price fetched of late by the cheese, seems to be recalling the practice.

In several sheep farms, young black cattle, or young horses, constitute also an article of sale, more constant, or more incidental; but in none to any great extent: The same may be said of the produce of the dairy, and of corn.

The following Tables will convey an idea of the modes of management, and of the proportions of the sales. The proportions in the Tables are taken from known farms, though the numbers are arbitrarily chosen.

EXPLANATION OF THE TABLES.

1st, The stock of breeding ewes are marked at the top of the Table. In these, are included the ewes going in their second year, or *gimmers*, the ram being admitted to them at Martinmas, when they are eighteen months old, excepting in two or three of the most high-lying stormy farms dealing in this sort of stock. The rams are not included in the breeding stock at the head of the Tables. In high-lying breeding farms, the proportion of rams to ewes is about one to forty; in lower lands, one to fifty. The numbers accounted for in the Tables, are merely those belonging to the farmer. The shepherds have the privilege, generally, of grazing a certain quantity of sheep along with the farmers, in lieu of wages; receiving also six and a half bolls of oatmeal, and the grazing of a cow, with coarse spirit hay for her Winter fodder, in lieu of victuals. Upon a fattening farm, the herd may have the privilege of keeping twenty-eight or thirty breeding ewes, with six or seven lambs to keep up his breeding stock; and, upon a breeding farm, perhaps fifty sheep, young and old.

2d, The numbers at the foot of each column, show the quantity of the species in that column which are annually fold. As the practice in Tweeddale is to number sheep in *scores* and *odd*, this mode of numbering is followed in the Tables. Thus,

score. odd.
10 15, is 215.

3d, Upon inquiry, I find, that in lambs, the proportion of males sometimes exceeds that of females; and that, at other times, the females are most numerous; but that, upon the whole, they are nearly equal. They are therefore stated as such.

4th, The holding of a farm, is the number saved or smeared at Martinmas. The old breeders that are to lamb the ensuing Spring, are marked at the head of the Tables, as the holding stock; but to these may be added the number of the ewe-

K

lambs,

lambs, accounted for in their column as set apart for breeders, making allowance for death.

5th, In regard to the numbers fold, (as marked, foot of each column), it may be remarked, that there are always a certain proportion rejected by the large wholesale purchaser, which are either fold at inferior price, or kept on another season, as before explained.

TABLE

TABLE I.—BREEDING FARM.

Holding 41 scores 5 odd of Breeding Ewes, and felling out Wedder Hogs.

	MALES.		FEMALES		CROCKS.		OLD TUPS.	
	score.	odd.	score.	odd.	score.	odd.	score.	odd.
Making allowance for death of old ewes through Winter, and of misfs of lamb in Spring, this breeding stock may produce, annually, of lambs - - - - -	18	3	18	2				
Of the worst of these lambs, six score ten may be fold off as lambs, viz.	4	0	2	10				
Which reduces their number to -	14	3	15	12				
But three score ten, in lieu of these, may be bought in, of good wedder lambs, from some farm felling these, viz. - -	3	10						
Making the number to amount to	17	13	15	12				
Of the males, may be kept uncastrated, and set apart to supply castr-off rams - - - -	0	17						
Reducing the number to -	16	16	15	12				
This number of males are castrated, to be kept through Winter, and fold in July as wedder hogs; but there may die, of castration, and through Winter - -	1	16						
Leaving, of wedder-hogs, for sale in July - - - - -	15	0						
Of the ewe lambs, there may die before 14 or 15 months -	-	-	1	6				
Reducing their number to -	-	-	14	6				
Of which annually retained, to supply castr-off breeders - -	-	-	7	10				
Which reduces the ewe hogs for sale in July, to - - -	-	-	6	16				
Old crock ewes fold at Martinmas	-	-	-	-	6	16		
Old tups, or castr-off rams, fold in September to feed shearers -	-	-	-	-	-	-	0	12

The numbers annually shorn may be fifty scores : Six fleeces averaging a stone of 23 lib. English, the wool not washed.

TABLE II.—BREEDING FARM.

Breeding Stock, 40 scores of Ewes, and felling Wedder Lambs.

	MALES.		FEMALES.		CROCKS.		OLD TUPS.	
	score.	odd.	score.	odd.	score.	odd.	score.	odd.
The annual produce of lambs may be taken at - - -	17	10	17	10				
Of these lambs, there may be kept, to supply rams, - - -		15						
And there may die, in castration, or be unfit for it - - -		15						
	1	10						
The remainder for sale of wedder lambs, is therefore - - -	16	0						
Of the ewe lambs, may be kept, as breeders - - - -			8	10				
Remainder of ewe lambs for sale -			9	0				
The old sheep for sale are,								
Cast-off breeding ewes -					6	10		
Cast rams - - - -							0	12

Number shorn annually, forty-eight scores; six fleeces, unwashed, averaging a stone.

TABLE III.—BREEDING FARM.

Breeding Stock, 50 scores of Ewes; the Lambs and Cocks all fold Fat.

	MALES.		FEMALES.		CROCKS.		OLD TUPS.	
	score.	odd.	score.	odd.	score.	odd.	score.	odd.
Annual produce of lambs -	22	10	22	10				
Ewe lambs kept for breeders -			11	10				
Tup lambs kept to supply rams -	1	0						
Remainder fold fat - - -	21	10	11	0				
Old crock ewes fold fat -					9	0		
Old cast-off rams - - -							0	15

Number annually shorn, sixty-two scores ten; five and an half fleeces to the stone, unwashed.

In regard to those farms where lambs are bought in annually, to be fold out next season as hogs; or, where hogs are bought in, to be fold next season, or next again, as dummonds or old wedders; or, where ewes heavy with lamb are bought in, both lamb and dam to be fold out fat the same season; their œconomy is so very simple, as to need no illustration. It may be just observed, that the risk of dying is greatest in lambs kept over Winter, to be disposed of as hogs, one in twenty being the common average of deaths.

In selling sheep, the Tweeddale practice is, to give one to the score, without payment; so that, when sheep are fold, for instance, at 10l. per score, they are not paid for at the rate of 10s. a head, but at the rate only of 9s. 6½d. In dull markets, an additional sheep is sometimes given, without payment, to the hundred; and sometimes one also to the parcel, &c. This practice, introduced from facility in the seller, that the advantage may go with the buyer, is still persevered in; perhaps, from the vanity of the storemaster, that he may boast of a good price; or perhaps, that the nominal may be taken for the real price, in a way of deception, which, however, deceives nobody. The custom only introduces confusion and perplexity into the account, and had much better be laid aside.

Before proceeding to state the management of the arable part of sheep farms, I shall explain the Tweeddale designations of sheep, according to their sex and ages.

	DESIGNATIONS OF		
	MALES.	FEMALES.	CASTRATED.
1. From the time they are lambed, in April, till the ensuing Martinmas that they are smeared or salved, they are designed - - - -	Tup Lambs.	Ewe Lambs.	Wedder Lambs.
2. From their being salved at Martinmas, till next July that they are shorn -	Tup Hogs.	Ewe Hogs.	Wedder Hogs.
3. From this shearing till next July, when they are shorn for the second time -	Tups.	Gimmers.	Dummonds.
4. From that time till next July, when they are shorn for the third time -	Tups.	Young Ewes.	Wedders.
5. From that time ever after -	Tups.	Old Ewes.	Wedders.

N. B. The cast-off breeding ewes, when fold at Martinmas, are designed *slack ewes*, or *crocks*; when fold heavy with lamb in March, they are designed *great ewes*.

Second, Management of arable land attached to sheep farms.

In stating this management, it may be proper to distinguish the arable land into old *croft*, and *outfield*. (See Note, foot of p. 15.)

Croft.—Around all the dwellinghouses of sheep farms, which have been long occupied as residences, there is generally found from ten to thirty acres or upwards of *old croft*; i. e. land which, for ages, has been kept in constant culture; receiving, in rotation, all the dung collected from the cattle house-fed in Winter, &c. The rotation observed on this croft, was, universally, and, in a very few instances, continues still to be, 1. Big, with the dung; 2. Oats; 3. Peas: no green fallow crop, nor artificial grasses for hay; the only hay from this croft being procured, by allowing a ridge or two of the third under oats to remain untilled; when the roots of the couch-grass, &c. never killed by fallow, produced a spontaneous crop. As the land was ever full of grass roots, the sheep derived considerable benefit from picking up these roots from the ploughed land, in barren early Spring months. This indeed was the only sensible objection brought by the adherents to the old system, against the introduction of the new.

When potatoes came to be planted in considerable quantities, which was our first improvement upon the old system, a part of that third intended for peas (our ameliorating crop under the old system) was assigned to the potato; and when the potato was cultivated to such extent as to occupy one half of the peas third, it is evident, that, by interchanging the places of the peas and the potatoes at the second *vice* of the rotation, the whole croft, in course of two rotations, or in the space of six years, would be cleaned; at least in such imperfect manner, as can be effected by potato fallow; where, from necessity of more early planting, the land cannot admit of such previous cleaning as with a turnip crop.

Since the introduction of the turnip and fown-grass husbandry, this old croft is, we may now say universally, kept under rotation, upon the principles of the Norfolk rotation of four, *viz.* 1. Green crop fallow of turnip, and part of potato, with
all

all the dung ; 2. Barley or Big, and sometimes Red Oats, with grafs feeds ; 3. Hay ; 4. Oats, or sometimes Big, when the demand is great, answering tolerably well with one furrow upon light land. Where there is sufficiency of arable land for the purpose, it is evident, that, by thus applying dung only once in four years, the farmer may add to his crofts an additional break, equal to one third of what he could formerly command by his dung ; particularly when we advert to his additional power of enriching his land, by eating the turnip crop upon the ground with his sheep, instead of being obliged to dispose of them in glutted markets, upon the failure of his pasture ; this ability of the farmer to take a longer range of marketing, tending also to keep the market price of meat more steady and equable to the consumer.

If the land is of that superior quality, as to admit of a rotation of five or of six after one dunging, it is evident, where there is land lying fit for the purpose, that a quantity of additional land may be taken into the rotation ; extending, in the first case, to two thirds more ; in the second, to double of what could be commanded by his dung, under the old system of the rotation of three. The five-course rotation is very commonly adopted, where there is sufficiency of land, and the soil of considerable richness ; viz. 1. Green fallow crop, with the dung ; 2. Big, with grafs feeds ; 3. Hay ; 4. Oats ; 5. Peas. The sand soils are, however, commonly kept in rotation of four only ; being accounted too poor to bear a more extended rotation, and being also found unpropitious to peas, the only other ameliorating crop in use, in the alternation of white and green crops. A rotation of six is sometimes, but very rarely, attempted ; though I am informed it hath been found to answer by Sir James Montgomery of Stanhope, upon some of his very superior land in the old crofts of Stobo : This six-course rotation may be, 1. Green fallow crop, dunged ; 2. Big, or Barley, with grafs feeds ; 3. Hay ; 4. Oats ; 5. Peas ; 6. Oats : Or, 1. Green fallow crop, with dung ; 2. Oats ; 3. Peas ; 4. Big, with grafs feeds ; 5. Hay ; 6. Oats ; or some such mode of alternation, as shall include green crop fallow,
and

and artificial grasses, with the constant interchange of white and green crops. It is probable, no land in Tweeddale can, with advantage, be submitted to such severe course of cropping; unless the sheep farmer were to confine his green crop fallow entirely to turnip, and (sacrificing the sheep in a great measure to the soil) to confine the sheep eating the turnip, in all weathers, upon the turnip field. But the greater part of the sheep farms have not sufficient extent of proper arable land for rotation fields, to render their possessors very solicitous about dung; of which article they have often a superabundant quantity for their rotation fields, in consequence of the number of young black cattle they rear and keep through Winter, upon the coarse spontaneous hay of the farm. In their turnip feeding of sheep, they therefore look more to the improvement of the sheep, than the benefit of the turnip field: the sheep are accordingly, in many instances, never confined, but have liberty to range at large over the whole turnip field, and to retire, when full, to dry beds, where they chuse, or to the fog, when they wish for variety of food. I think there can be little doubt, that the sheep must, in this way, thrive much better than in any other; yet it must be confessed, that it is a most uneconomical mode of expending the turnip crop: the sheep soon wound every turnip of the field, by their bite, after which, the turnip can stand no stress of weather. If the sheep are not to be confined upon successive portions of the field, it would be expedient to inclose the field from the sheep, and, by having one side of the inclosure moveable, to admit them to the turnip by little at a time. Unless upon the very light dry sand soils, the sheep are materially retarded in their thriving, by being confined upon the turnip field when the weather is wet.

The first improvement introduced, according to present remembrance, into Tweeddale sheep farming, was, *the diminution of numbers*; by which, the numbers kept were rendered superior in quality, from more abundant feeding, and the risk greatly diminished, of death, and of diseases originating in poverty. The last great improvement was, the turnip and sown grass husbandry, through which, sheep and arable farming have been rendered

rendered mutually subservient to each other; the accession of dung, from the sheep feeding upon the turnip, enabling the storemaster to enlarge, or keep in higher order, his crocks, or rotation fields; his turnip and his hay enabling him to dispose of his crocks in better order, and with greater extent of market, and also securing for his holding stock a certain degree of provision; when their pasture is blocked up by snow storms. Such, however, is the excess, in Tweeddale, of the quantity of mountainous sheep pasture land, above that of the arable land, that it is questionable, whether the whole arable land would suffice, under any proper rotation of culture, to afford an extent of turnip crop equal to the feeding of the old sheep annually fold, or a full sufficiency of hay, annually, to supply the holding stock in a Winter storm; even supposing the whole arable lands to be attached entirely to sheep farms; or that the sheep and arable farmers should, in their interchange of traffic, bring their interests to the operation of a copartnery.

Outfield.—In most of the sheep farms, besides the old croft, tracts of arable land are found, of greater or lesser extent, and lying so flat, or upon such gentle declivity, as to be easily accessible to the plough. Where these lands are so situated, as to give little interruption, while under crop, to the sheep walks, they are occasionally brought into tillage, after folding of sheep or black cattle, or after lime.

Ewes, where milked, are folded, nightly, for convenience of milking, for six or seven (formerly eight or ten) weeks after the middle or latter end of July that the lambs are weaned. A small flock, upon a narrow range of pasture, may be folded, nightly, through the whole of Summer, without inconvenience; as they have no distance to travel from the fold to their pasture, in going and returning. Where a part of the ewes and lambs of an extensive sheep farm, are fattened upon enclosed and improved pasture, on the same farm, it is considered as even advantageous to take them off their pasture every night, to a contiguous fold; as this prevents that disgust which they feel to the parts of their pasture upon which they have lain. The black cattle, which are not housed through Summer, (which, in

some farms, comprehends the whole, in others, only those not giving milk), are folded, nightly, to prevent their damaging the growing corns, from Whitsunday, till the end of September or October, that the corns are got off the ground.

The folds are constructed upon a part of the outfield grass ground, intended to be broken up for tillage. The enclosure is made of sod-dikes, at the expence of about 3d. the running rood of 6 Scots ells; whins are inserted below the coping sod, to make the fence more formidable. Lest, in a large range of fold, the folded cattle should frequent a particular part of it, enriching it with their dung, while the remainder of the fold received little or no dung; it is judged preferable, to have two or three folds for the black cattle, and two or three for the sheep, according to the time they are folded, to be occupied in succession; rather than to enclose the whole space intended to be ploughed, in a single fold at once; by which means, the land would not be so equally *teathed* (dunged). After harvest, the sod dikes of the fold are levelled, and the land ploughed; or, where lime is also added, the lime is laid upon the surface before ploughing*; when a succession of three or four crops of oats are taken, according to the richness or poverty of the soil; after which, it is left to cover itself with grass sward, as nature shall direct; stable loft grass feeds being sometimes sown with the last crop, to bring it sooner to grass. After the whole of the outfield has been gone over in this manner, what was first resigned to grass, is again resorted to; being ready to undergo a second course of the same treatment. According to the number of crops taken, after this mode of dunging, the farmer has thus, yearly, under crop, triple, quadruple, or even quintuple, of that quantity of his outfield, which he can fold in a season.

If the farmer finds that he hath more outfield in his farm, than he can thus teath, by folding, during the currency of his lease, and judges that it would yield him more profit under crop, than in pasture, he has then recourse to lime; liming,
upon

* As an improvement, the lime is laid upon the surface, sometimes, in the beginning of Winter, previous to the Spring, when the land is folded.

upon the sward, as much as he can overtake in a season; and, with no other manure than the lime, taking, perhaps, four or five crops of oats, then one of pease, which, in some measure, secures a sixth one of oats; when it is consigned to nature, to gather sward for pasture. Very weighty crops, to the above extent of number, have been reaped, in this way, from outfield of tolerable soil, *which had never before been either ploughed or limed*: Upon attempting, however, to make it undergo the same treatment, by a second liming, even after it had lain in grass for fourteen or fifteen years, the experiment has been found unsuccessful; and teathing by folding, not liming, was judged the manure to be thenceforward depended upon for crops.

Barbarous as this method of treating the outfield may appear, it is not easy to suggest a better mode, *so long as these outfields shall remain unenclosed*. To improve these comparatively small portions of arable land to be found in extensive sheep farms, and to lay them out under rich pasture, would produce no perceptible advantage to a large sheep flock, to whom it would only yield a few mouthfuls a piece, and whom, by the enticement of its superior sweetness, it would only distract from the coarser pasture on which they must depend. It would be idle, to forego the substantial advantage of crops, for an inconsiderable quantity of superior pasture, which would be detrimental, rather than advantageous; unless, by being enclosed, it could be distinctly appropriated to such a number of animals as it would suffice to feed fully, whether sheep for the butcher, or cows for the butcher or for the dairy.

Outfield land, exhausted by such treatment, especially after liming, is, no doubt, of less value than in its original state; i. e. in respect of the profit that can be derived from it, by subjecting it to such exhaustion: Otherwise, it may universally be considered as improved; inasmuch as the lime brings a spontaneous white clover into the sward, much preferable to the rushes, heath, or other coarse grasses which are native to the soil previous to its receiving lime. At all events, why should anxiety be manifested, as to land alone, against reaping advantages which cannot be obtained a second time to the like extent?

tent? Why preferve a value, always in mere possibility, without ever realizing it? A coal mine *never to be worked*, is, surely, equally uselefs as *an exhausted* coal mine. The value, thus abstracted from the outfields, is not all loft to the identical farm to which they belong; being transferred, in shape of dung, from the outfields to the crofts, through the accession to the dunghill, from the great addition of fodder from the outfields, consumed by cattle in the farm offices: The profit, meanwhile, from the crops, augments the capital of the farmer; in whose hands, from the œconomy adhibited in its application, it is capable, under proper encouragement, of being more effective of agricultural improvement, than in any other hands; it may be so employed upon that very farm; or if, from similar causes, it is everywhere similarly augmented, its operation will come round, although the identical farmer should not lay it out upon that identical farm whence he derived it.

Were all the arable lands of sheep farms completely enclosed, so that the farmer might have the opportunity of appropriating his improved pasture, exclusively, to that precise number of cattle which it would suffice to feed to the full, there can be no doubt, but that it would *then* be more profitable to lay down the outfields in rich pasture, after moderate cropping, than to exhaust them. It might *then* be eligible, to throw off the whole of the present crofts in pasture, which, in that state, might pay equally well as under crop; and to convert an equivalent part of the present outfield into croft or rotation fields; which, by receiving all the dung collected from the farm offices, together with the accession from sheep eating the turnip upon the ground, might soon be rendered equally rich as the old crofts of the farm*.

The greatest improvement of which Tweeddale is susceptible, is, to render sheep farming and arable farming mutually subservient to each other, by such a scheme of enclosure: The great
addition

* To this system of management, the farmers upon Count Lockhart's estate were bound down, at the last leasing out of his lands in the Upper Ward of Lanarkshire, about six years ago. Tenants on unexpired leases soon followed the example, although not bound to it by any obligation.

addition of dung, from the sheep feeding upon turnip, and through various methods of mere folding of them, might add greatly to the extent of the lands kept in rotation tillage, as also to the quantity of their return; whilst the improved pasture, and the turnip crops, would enable the farmer to sell the whole, or part of his disposable sheep, (according to the proportion of his arable to his hill land), in higher condition, and at an higher price. Farther than the arable land, enclosure could be of little or no advantage to sheep farms, for reasons to be explained under the article *Sheep* *.

But

* John Loch, Esq. of Rahan, whose property consists of a small round hill, holding about a dozen or fourteen scores of breeding ewes, and of a more considerable extent of arable land, of excellent quality, all of which he farms himself, has, for upwards of twenty years bypast, been setting an example of the reciprocal subserviency of sheep farming and tillage, to the mutual advantage of both. He places great dependence upon the folding of his sheep, both for bringing land into tillage, and also for the improvement of his pasture.

In his letter to me, he observes, that he took the hint of improving land upon a large scale, by sheep folding, from observing the luxuriance of the crops produced in the way of folding sheep, common in the country; and that, hitherto, the prosecution of the practice, upon a more extended scale, has answered his warmest expectation. Finding the sod dikes of the country troublesome and expensive, he got flakes of foreign wood, each ten feet in length, and in such number, as to enclose about four fifths of a Scots acre at a time. His whole flock of sheep were, nightly, brought from his hill, and folded upon his land intended to be brought into tillage, from the end of May, till the end of October; the flake fold being shifted to new ground every 10 or 14 days in wet weather, and once in three weeks when the weather was dry. Whence it may be concluded, that about 8 Scots acres would thus be annually manured by his flock; or at the rate of thirty sheep to manuring one acre.

In this manner he brought much of his arable land into tillage, for which he had access to procure manure in no other way.

He has sometimes got ploughed, before Winter, a part of the land intended for sheep-folding the ensuing Summer; and also limed it in time, to have the lime effect before folding the sheep: Upon this part, which the sheep were folded first upon in Spring, he had the opportunity of sowing broadcast turnip, after the sheep were removed, which turned out a half crop; and were eaten by the sheep, next Spring, upon the field, in time to have the land so treated, ploughed along with the rest of the folded land for a crop. This he considers as a very great improvement; as land so treated, not only receives a sheep teathing, in common with the other folded land, but has the additional advantage of the turnip eaten upon it by the

the

But who, it may be asked, are the proper persons to carry on such schemes of extensive enclosure? The answer we would be inclined to give, upon experience of what has been effected on the lordship of Neidpath in Tweeddale, is, *Tenants, at their own expence, upon moderate rents; and with the security, from their lease, of thrice nineteen years possession of the farm.*

Proprietors, not practical farmers themselves, are but ill qualified to judge of the proper plan of enclosure, *to render the farm productive*; but of this the tenant is a competent judge, because *to this alone* he directs his attention. The proprietor consults often *elegance, &c.*; the tenant only *use*. The proprietor cannot drive a hard bargain; and there must be a want of

the sheep, previous to its being subjected to a crop of corn. The ploughed land he considers as yielding a drier bed to the folded sheep than the grass land; and, when it hath been limed, the paddling of the sheep's feet, mixes the lime more intimately with the soil, than can possibly be effected by the operation of the harrow.

Having brought into proper order the greater part of his outfields by means of folding, and having laid out, in grazing parks, what is not intended to be kept under constant rotation culture, he has now less occasion to fold his sheep upon new land intended to be cultivated. He, however, finds the folding to be the best mode of recruiting his improved pasture, destroying the fog, and invigorating the grass. The turnip fields, upon his rotation lands, he finds most profitably expended, when eaten upon the field with sheep. And as his hill is now all enclosed, and subdivided with stone dikes, he is in no risk of intermixture; so that he can attempt different breeds of sheep. He has found the Cheviot breed to answer well, and is now crossing that breed with the South-Down. He tells me, he is entirely of the opinion of the old writers, "that a flock of sheep is the most powerful arm, either for bringing land into culture, or for preserving it in the most highly productive condition."

Although Mr Loch informs me, that, to judge by the price at which he disposes of his sheep, the continued folding is in no way detrimental to them; it would nevertheless be extremely absurd, to extend his practice to widely extended sheep farms. His small flock can, without long travel, be easily conducted, daily, from his comparatively small extent of hill land to their fold, and back again, without much fatigue, or interruption of the time of pasturing. The case widely differs, in both respects, as to an extensive hirsle of 50 or 100 scores of sheep, pasturing, when at ease, scattered over miles of mountain. In situations similar to his own, no system can be better than Mr Loch's. The same system, as to the fattening part of his sheep, is adopted by Mr Charles Alexander, upon his extensive farm of Laster Haprow.

of œconomy in the whole of his expenditure : The very same capital, under the rigidly œconomical application of the tenant, would effect almost double the execution. The tenant, even upon a nineteen years lease, would be willing to pay interest for enclosing capital : If, however, the enclosures are laid out with a view to taste, more than utility ; or if the capital advanced is over proportioned to the work executed, the tenant can less afford interest, and the proprietor has paid disproportionately for the extent of melioration accruing to his farm.

Perhaps, the most œconomical scheme of enclosure, which a proprietor could adopt, would be, to give his tenant a *charte blanche* as to enclosing, when he finds him judicious, thriving, wishing for enclosure, and willing to pay common interest for the capital advanced : that he should entrust the direction of the enclosures entirely to the tenant, in the certainty that they shall be conducted so as to add the most productive value to the farm : that he should also empower the tenant to contract with the undertakers, who, as he pays interest, will therefore exhibit his usual œconomy in the advance of capital. Upon such a system, it might be prudent in a proprietor to borrow money for the purpose of enclosing, however unsafe such practice has hitherto been accounted in the agricultural improvements of proprietors ; as he might be certain his tenant would never call for an advance, for which he is to pay 5 *per cent.*, unless upon the well-founded prospect of its yielding himself 10 or 15 *. Indeed, a great part of the lands in Tweeddale cannot be brought to their proper productive value, by improvement of culture, till enclosure is more generally extended. When this shall be effected, improvements of their value may be

* Money sunk in agricultural improvements, is not like money launched out upon mercantile enterprizes ; it cannot be recalled all at once, but merely in annual returns ; and probably not in this way, till after a considerable lapse of time. Proprietors borrowing money for such purposes, should know well from whom they borrow. Money-broking conveyancers have an evident interest in shifting securities as often as possible, from the profit arising to them from drawing up new titles of security, the expence of which falls upon the borrower. Such is the case in Scotland.

be extended, both to the arable lands and to the sheep. It is, however, substantial, immediately useful, stone-dike enclosure, that the Tweeddale sheep farmer stands in need of; and for this alone would he consent to pay interest. Hedges, he considers as mere vexatious baubles, which can never, in any degree, prove a fence for Tweeddale sheep. Considering, indeed, the variety of soil that must be encountered in any extensive scheme of enclosure, it were absurd to suppose, that every part of it was fit to rear thorns. In so far as my observation extends, there is not to be met with, even in the richest soils of Tweeddale, one hundred yards of continuous hedge, sufficiently fenceable against any description of pasturing animal. I now proceed to

II. *Management of Arable Farms.*

By arable farms, I would be understood to mean such farms as do not depend upon sheep, but upon tillage; although there are few of them that do not keep a few sheep of the long-tailed, large, fine-wooled, English breeds, which are easily confined to narrow ranges; neither possessing that uncontrollable propensity to roam at large, which is proper to our native wild sheep; nor the same contempt for hedges as a fence: These sheep pasture along with the cows, are often housed in Winter, and are called *pets*; a designation applied to every kind of sheep kept in this state of domestication.

There are few of these farms entirely arable, though some are.

A considerable number of them are mostly enclosed with hedge and ditch, which, with constant repairs by paling, makes a tolerable fence. As these farms often extend into the plains, and have the arable lands of sheep farms interposed betwixt them and the sheep; this circumstance gives protection to the hedge enclosures, which, being thus defended from the assaults of their more formidable enemies from without, more easily suffice to confine their more peaceful inhabitants within.

These farms are of smaller size, and of less extent of rent, than the sheep farms, as already mentioned.

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The staple articles of their produce are the dairy articles of fresh butter, skimmed milk cheese, new dropt calves, with old cows fold off, in calf, or fat, and sometimes young cows or oxen; corn also and hay; with, incidentally, a young horse bred from the plough mares; and, where they are kept, the pet lambs, or old pet sheep, fold fat.

Fresh butter, sent weekly to Edinburgh, by weekly carriers, is the chief dairy product to which attention is paid; and with good reason. To deal in fatted veal, excepting, incidentally, at the scarce seasons; or in any cheese, but what is made of the milk, after abstracting the cream for butter; would be to relinquish the advantage we possess, of vicinity to the best market for fresh butter, and to place ourselves on a level of competition in the market, with counties the most distant from the capital*.

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* Butter is all made from cream. Great care is taken to preserve the milk from impurities. A milk-house must be cool, but free from damp, and admitting of the circulation of air. The milk vessels, generally of cooper's work, are well washed, every time the milk is taken out of them, in boiling water; and are carefully scrubbed, with a *rubber*, or hard brush made of the smaller twigs of heath; some adding a little salt during the scrubbing, others a little quicklime, to neutralize the acid imbibed by the vessel from the milk. The milk is poured from the milking pail into these vessels, where it is to remain for casting up the cream, through a sieve of flannel, or of fine brass wire. According to the heat or coolness of the weather, it is allowed to stand for 36 or 48 hours, before the cream is skimmed off; the cream is put into a separate vessel, where it is collected for the weekly churning. The churn used, is the barrel-churn, with moving breakers; though, of late, a square box, with a sliding lid, and moving breakers, which can be taken out at pleasure, is getting into use, from the greater facility of cleaning it. The cream, when put into the churn, is passed through a canvas bag; and, in short, every precaution is thus used, to preserve the milk free of every taint, and of the admixture of all extraneous substances. About 30 years ago, very little attention was paid to cleanliness; and, after the butter was taken from the churn, a large knife, hacked saw-ways on the edge, was repeatedly passed through it in all directions, that hairs and other impurities might be removed, by their adhering to the ragged edge; this practice, then universal, was called *hairing the butter*.

Of all animal concoctions, that of the conversion of the aliments into milk, seems to produce the least change upon the original nature of the aliment; and the

The parishes chiefly abounding in small arable and dairy farms, are those nearest the capital, as Linton, Kirkurd, Newlands, Eddlestone, and Peebles; Newlands being probably the best adapted for the dairy, in consequence of more abundant shelter for milk-cows, from the more abundant artificial wood plantations. The town of Peebles consumes a considerable quantity

the quality of the milk and butter depends very much on the nature of the food given to the cows. The butter of cows, fed in Winter upon carrots and hay, differs very little, either in colour or richness, from that made upon Summer's grass feeding. There seems, indeed, to be a particular congruity betwixt the juice of carrots and milk; in so much, that the expressed juice of rasped raw carrots, put into the churn along with the cream, gives to Winter butter, not only the colour, but a considerable degree of the rich taste of butter from grass: It, indeed, prevents the butter from keeping so long sweet. The disagreeable taste given to milk and butter, from turnip feeding, is generally corrected, by putting into the milk vessels, along with the new milk, a small quantity of saltpetre, either in powder, or infused in water.

The skimmed milk is made into cheese; the milk being immediately curdled, so soon as the cream is taken from it, after being warmed to the heat of new milk; when, if the dairy yields a sufficiency at one skimming for a cheese of the size required, the curd is immediately committed to the cheese press; if not, the curd is preserved, and mixed with the curd from the milk next skimmed. The whey is used instead of water, for making the oat-meal porridge, to the considerable saving of meal, (a saving produced to a greater extent, by using milk for the same purpose in Winter, when there is not sufficiency of milk for cheese-making), and the residue is given to pigs; sometimes, instead of water for drink, to weaned calves for holding stock; and sometimes to new weaned foals. A sort of very mean cheese, is sometimes made from butter milk, but none for sale; when kept till moulded (which soon happens), it acquires a particular high aromatic flavour, exceedingly grateful to some palates.

In the sheep farms, where sheep's milk cheese is made, the whole milk of the cows upon the farm is mixed with the sheep's milk. The butter, during this period, being ill tasted, is kept to be mixed with the tar for smearing the sheep; and the milk is afterwards made into cheese. There are, by consequence, very few farms where cheese is made of entire sheep's milk; and, from the various proportions of the admixture of cows' milk, there are few articles in commerce, passing under one common denomination, of which the qualities are so various as those of sheep's milk cheese.

The *yearning*, or runnet, used for curdling the milk, is commonly the stomach of a calf, well salted, along with the curd found in it, and dried: When about to be used, it is cut into small pieces, (some only using the stomach, and throwing away

quantity of dairy produce from the farms in its neighbourhood. The medicinal well, with the woollen manufactory, begun at the village of Inverleithan, may, in time, raise a considerable demand for dairy produce, from the farms in the parish of that name, and in that vicinity.

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away the curd, which is often rancid), and put into a can, with a strong pickle of salt and water: When it hath steeped so long, that the liquor, upon trial, is found to have acquired the yearning quality, the liquor is carefully decanted from the sediment, and bottled up for use; when fresh pickle is poured upon the stomach, so long as it is found capable of giving out this quality to the pickle. Instead of the stomach of a calf, some use, with success, the stomach of an old cow, salted, rolled up hard, and dried; the stomach of a hare, or of a lamb, are found to answer; and perhaps the same property is to be found in all stomachs, intended, in early life, to digest milk: What appears singular, the inside skin of a hen's gizzard, cleaned, salted, and dried, is found to possess this quality; perhaps, it is a property belonging to every kind of stomach. Several vegetables are used, in aid of the stomach yearning; I have made trial of decoctions, of all different strengths, of one pointed out to me, as of high character, but could not find that, of itself, it had the smallest tendency to curdle milk. The quantity of the yearning liquor necessary for a given quantity of milk cannot be ascertained; every particular stomach yielding a stronger or weaker impregnation to the pickle in which it is infused; and the housewife being not unfrequently disappointed, in finding that no yearning quality whatever has been imparted. If chymical analysis were applied to rennet, perhaps some succedaneum might be found out, which would produce the effect with certainty, and, at some time, prevent the bad taste often communicated, by stomach rennet to the cheese.

Sweet-milk cheese, i. e. cheese made of the whole milk, without abstracting the cream, is not made for sale in this county; but only for private family use. The theory of preserving all the richness possible, to cheese of this description, seems to depend upon the following facts, which seem abundantly ascertained in experience: 1mo, That cream is evaporable, in a degree of heat not very intense; as appears from the equal poorness, both of the cheese and of the whey, when the milk is too much heated before putting the yearning to it: 2do, That the albescence of the cream to the curd part of the milk is but slight; as appears from the richness of the last drainings of the whey, which, in whole milk cheese, are very rich cream, if the curd is too hard wrought by the hand, or if it is too hard pressed at first, immediately upon its being committed to the cheese press: 3do, That the whey, if not soon separated, speedily contracts the acid, and then the putrid fermentation in the cheese; making the cheese swell, tainting its smell and taste, and rendering it unfit for keeping.

Hence, the propriety is indicated, 1mo, Of yearning the milk as cool as may be: 2do, Of moderate working of the curd by hand, in extracting the whey; to-
 gether

The evident advantage to the dairy, to be derived from the improved system of husbandry, led speedily to its adoption (as already observed) in farms of this description. The milk-cows (generally feeding to from 25 to 30 stones Dutch of carcase, when sold moderately fat to the butcher) are much fed in the house, during mid-day heat, and over night, in Summer, upon clover cut green; which adds greatly to the dung bred upon the farm. The turnip crop is given to the milk-cows, and the young stock in Winter. The plough horses are also much fed on cut clover in the house through Summer, when hard worked; as they can thus fill their bellies very speedily, and have more time for work: When at pasture, they generally feed with the milk-cows; or sometimes, when they come hungry from the yoke, they are *teathered* (*i. e.* confined by a long rope, fastened to their halters, with a strong wooden or iron
pin

gether with a regulated pressure, moderate at first, and gradually increasing, when it is put into the cheese-well, and submitted to the cheese-press*: Or the Ayrshire practice, of taking the curd repeatedly from under the cheese-press, and slicing it into small pieces, which are exposted, at each operation, upon a sieve, for draining and drying by the air; that, thus, the aqueous particles of the whey dripping off, or exhaling, the cream, becoming dry, may continue adhering to the curd, while undergoing the last more strong consolidating pressure.

The general time of pressure, because suiting the practice of daily cheese making, without the expence of double apparatus, is 24 hours.

Some housewives salt their cheese in the curd; others, by rubbing salt upon the skin of the cheese after it is made; others, by putting the cheese in pickle, which is thought to extract some of its richness.

A fact, said to be established in experience, is the ground-work of some family receipts for making very rich whole milk cheese, *viz.* That a small quantity of the whey taken off, made boiling hot, and poured upon the remainder, causes the curd instantly to consolidate, and expel the whey, the cream part, meantime, remaining united with the curd; the mass of curd is then lifted from the whey, and plunged into the coldest spring water, which congeals the cream, from its liquefaction by the heat; it is then put into the cheese-well, and submitted to the press.

* The cheese-well is a vessel of cooper's work, hooped with iron, and full of holes in the bottom and sides. The cheese-press is a weighty stone, lowered down or raised up by a lever, or by a screw; or a small weight, with advantage of a long lever pressing down a board, whose opposite end is forced down by wedges. The screw is almost never used as a pressing force; and is improper, as it does not, of itself, follow up its advantage.

pin at the other end of the rope, which is stuck firm into the ground) upon patches of such coarse grass as they would reject when full fed.

A considerable number of these farms are of too small extent, to give sufficient occupation, at all seasons, for the horses and servants necessarily kept upon them: The farmer, therefore, lets out his servants and horses, and often himself for hire, in carrying coal, peats, lime, slate, stone, &c. &c.; or in labouring the still smaller possessions of day-labourers or artificers, who occupy land for the mere maintenance of one or two cows; or in working upon the public roads. Indeed, a number of them are merely taken with a view to such occupations. (See Note D.)

For the most part, these arable farms are held in lease immediately from proprietors: A few are held in subtack from tenants. When a sheep farmer takes in lease a sheep farm, which formerly had been a farmer's residence, but where he does not intend to reside, he generally sublets the houses and croft-lands of that farm; reserving to himself the right of Winter downfall for his sheep, which, if rigorously exacted, would be an effectual bar to their improvement.

Where the arable farms are all equally fit for plough culture, through their whole extent, and properly subdivided by inclosure, the whole is regularly cultivated; pasture forming a part of the system of rotation, and the general principles of rotation culture, already mentioned, being observed. For instance, to begin with the breaking up of what is in pasture; according as the rotation admits the field to have lain for a longer or shorter time under pasture, one crop of oats and one of peas, or two of oats and one of peas, are taken; then turnip fallow with dung; then barley with grass seeds; then hay; then pasture for a longer or shorter period. If, however, the land is not all equally fit for either pasture or tillage—if, for instance, a particular field is more convenient for pasture than the others, from contiguity to the houses; from being best watered; from being less fit for tillage, on account of steep declivity, or of wetness, or of poverty of soil—or if, as is oft-

times

times the case, the best arable land is alone inclosed by a single ring-fence, without subdivision, the rest of the farm lying open: In these cases, the open unincloded land, that which is least adapted to make a return in tillage, or that which, in other respects is most convenient for the purpose, are resigned to permanent pasture: The perpetual tillage land being cultivated, if light or sandy, under a four-course rotation; if of better consistence, under that of five; and, in some very few instances, under that of six, as already described.

SECT. II.—*Rent, in Money, in Kind, in Personal Services.*

ALTHOUGH victual rents may be most equitable in making provision for perpetuity, as being less subject to variation in value, at distant periods, than money rents, yet, for the short endurance of an ordinary lease, money rents are certainly preferable, both for the proprietor and tenant. They prevent all disputes, as to *quality*, in the payment; or intrigues, as to *striking the market price*, upon conversion: They prevent also, the irremediable inconvenience incident to victual rents; of doubling or trebling the rent against the tenant, in an year of scarcity, when he is least able to bear any addition; or of diminishing the value, in the same proportion, to the proprietor, in an year of plenty. Money rents are also by much the most eligible, as interfering, in no degree, with the tenant's management, but allowing him to turn his stock and industry to whatever mode of culture he finds most profitable; whilst rents in kind, in carriages, or other personal services, are, from this interference, extremely injudicious. In very long leases, it might be eligible, that a part of the rent should be payable according to the rate of victual; calculated, however, not from year to year, but always upon the average of perhaps the immediately preceding eight or ten years, in order to avoid the excessive inequalities of price that take place from season to season.

In Tweeddale, the proportion of rent paid in kind, or personal service, is very trifling; the more enlightened among the proprietors, entirely relinquishing all rent of this species. In cases where

where the proprietor resides, (the practice being, however, often continued from mere blind adherence to old usage, even where he does not reside), out of an idle anxiety of being secure of accommodation in certain articles, or perhaps from some silly conception, that the farmer will set no value upon the work, and the time he can spare from his farming operations, or upon such produce as can be raised from his offals; a small proportion of kind rent or service is exacted, in addition to the money rent; such as, meal and bacon from mills, poultry, and the carriage of fuel from all sorts of farms. The least reflection would, however, convince any one, that all such articles might be obtained equally cheap, without, as with, an obligation to furnish them. The tenant's varying views and practice, through the course of his lease, are the only proper measure of the time and labour he can spare from the farm; and these he will surely be ready to hire to the proprietor, as cheap as to any other: The tenant's experience can alone ascertain the extent of produce which may be raised from his offals; and this produce the landlord can always purchase at its market price. If either time and labour, or offal produce, are imposed beyond this extent, they come dear to the tenant; and this dearth must fall ultimately upon the landlord, as the less rent, proportionally, can be afforded. If the landlord wishes to have secure accommodation, at such expence, he can always command it voluntarily, by offering a price equally high. As a sum equal to the diminution of otherwise affordable rent, from neglect of farm, and waste of its produce, by the exacting of labour and time and offal production beyond their proper extent, could at all times bribe the tenant to the same extent of negligence and of waste—the only difference consisting in the tenant's being paid *before* (in diminution of rent), or *after* (in excess of price), for the negligence and the waste;—in situations where particular accommodations cannot possibly be obtained for hire or price, it may be more excusable to secure them by obligation: We ought, however, to be certain that they cannot otherwise be had, as undoubtedly every thing can be had cheapest from the professional furnisher. In regard to
poultry,

poultry, in particular, it may be remarked, that the resident proprietor can generally rear them himself, at much less expence than his tenant: For, as the tenant's houses are in great part low roofed, and covered with thatch; and as growing corn crops, with his barn-yard, are in close contiguity to his dwelling, which admits not of policy; the damage sustained by poultry, in treading down growing corns, and destroying the thatched coverings of the houses, and the corn stacks, may soon amount to more than what they can produce of profit, from picking up offals that would otherwise go to waste: But the slated roofs, and grass lawn of the proprietor, secure him against such damage.

By act of Parliament 1748, the arbitrary unspecified services of *use and wont*, an obligation to which was inferred at common law, though not expressed in the lease, are all abolished. They would seem, formerly, to have furnished a pretext for endless vexation and oppression of the tenantry; even so far as to devolve upon them most of the public taxes imposed by Parliament upon the proprietors of the land. No prestation is now exigible from the tenant, but what is expressly stipulated in his lease; with exception of such legal burdens as are already, or shall be *directly imposed upon him* by act of Parliament; and also, of his adstriction to the mill.

The permanent legal burdens, imposed upon the tenantry by act of Parliament, in their capacity as tenants, are, the one half of the poor's rates, where such rates are carried into effect; the one half of the salary of the parochial schoolmaster; also, a certain number of days labour upon the public roads, proportioned to the number of labourers and horses kept upon the farm—a burden which (from the experienced inefficiency of compelled labour) is now almost universally commuted into money payment, by authority of Parliament, in the special acts obtained by the different counties, for making and repairing their roads by the money they are empowered to collect in toll; the commutation being assessed according to the ploughs kept, or the valuation of the lands in the cess-books; and the money arising from it, being generally applied to by-roads, now that the public roads are upheld from a different source.

The burden of adstriktion to mills (called in Scotland *thirlage*) infers an obligation upon the tenant, to grind his grain at that particular mill to which the lands he occupies are *thirled*; *i. e.* which possesses the exclusive privilege of manufacturing the grain of these lands.

It seems not improbably conjectured, that, in former times, the Great Baron obliged all his tenants upon the barony, to bring their whole grindable produce to his mill, (not only as the narrow-minded mode of obtaining indemnification for the expence of erecting it, but) as the best method of both ascertaining and collecting his rents, which were most probably paid in kind, and in proportion to the produce. The proportion retained at the mill, in name of *multure*, might therefore include, not only the price of manufacture, but the whole of the victual rent: Accordingly, the territorial bounds of an adstriktion are generally commensurate to that of a barony; and the extent of thirlage is frequently still found to reach to the whole of the grindable corns. In consequence of the introduction of money rents, and of the alienation of lands from baronies, in all the varieties of private bargain, the thirlage of lands to mills is found existing under all modifications of extent, both as to the proportion of produce which the mill has the exclusive right of manufacturing, and also as to the proportion retained, as *multure*, or price of manufacture.

In Tweeddale, the rate of thirlage varies in both respects: The most narrow extent of adstriktion reaches to all the oats used in oatmeal by the farmer's family and servants upon the farm; and the broadest (the only other extent I believe in the county) reaches to all the grindable corns upon the farm, with the exception only of what is consumed by the horses, and of the seed sown upon the farm*. The corns of beer and of peas

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* The broadest adstriktion leaves an option to the farmer (after having manufactured as much as is judged equal to the consumpt of his family and servants) of disposing of the remainder in an unmanufactured state, upon his paying to the mill a proportion somewhat inferior to what might have been exacted upon manufacturing it (called *dry multure*), amounting to about a one and twentieth part of the quantity disposed of.

were probably introduced into culture, of a date much later than that of the establishment of thirlage; and this is probably the reason why, even under the broadest adstriction, reaching to all grindable corns raised upon the farm, these two species of grain are pretty generally understood to be exempted from the adstriction—a circumstance which I have known to lead to the preposterous sowing of beer, where oats would have been more profitable.

The rate of multure exacted at the mill, is, in general, most moderate where the extent of adstriction is most narrow, and highest where the extent of adstriction is broadest—corresponding, it would seem, to the remanence of the lands under their original constitution in regard to thirlage, or to the prevalence of the notions of emancipation in the bargain of their alienation. These rates of adstricted multure vary in this county from a 25th to a 21st, and even a 16th part of the quantity manufactured: A certain proportion of meal is also paid for the use of the kiln in drying the grain, though there is, indeed, no thirlage to kilns, and it may be dried at home; and a small due, in meal, established merely by usage, and therefore less defined, is paid to the under miller, under the name of *knave'ship*. Where the highest rate of adstricted multure is due, the proportion paid for the drying and manufacturing process, is supposed to amount to about a 14th part of the quantity manufactured: But in cases where there is no adstriction, the multure is universally a 32d part; and the whole quantity exacted, for both drying and grinding, is reckoned not to exceed the 28th or 27th part, which may therefore be considered as the real market price of the manufacture of grain.

Thirlage not only subjects the tenant of the thirled lands to an higher rate of multure, but also to various other burdens and vexations. If the mill to which he is adstricted should be out of repair—let his demand be ever so urgent, or his grain in ever such risk of being spoiled, he must allow the miller a proper time for reparation (some say six weeks from the time of application) before he is entitled to go elsewhere for service. The thirled tenant is subjected to many occasional services, from
which

which the free tenant is exempted ; such as, the upholding of the water dam dike ; the upholding, frequently, of mill fanners and mill sieves, and the carriage of millstones, when needed : he furnishes fuel for drying his grain ; he transports his grain to and from the mill—furnishings provided for him by the miller at free mills ; he attends also at the drying process, sifts his own meal, and performs the greater part of the most laborious work ; in all of which, his time and labour (in reality, or at least in probable imagination) are not well husbanded.

Adstriktion is, in principle, absurd. In every employment, of which mere pecuniary emolument is the object, the only stimulant to industry, excellence, and integrity, is that necessity of pleasing customers, in order to secure their custom, which arises from free competition : But adstriktion (implying an exclusive right to employment, whether the performance shall, or shall not, give entire satisfaction to the employer) completely removes this stimulant. What check can the adstrikted tenant have over the manufacturer of his grain, when the latter knows that the tenant cannot withdraw his employment, however dissatisfied with the execution, nor have recourse for any damage but what can be *legally instructed* ? How is it possible, legally to instruct damage from negligence or improper manufacture, or from unnecessary and expensive waste of the tenant's time in attendance, or from dishonesty in regard to the yield of grain, which it was impossible to ascertain, but from the return at the mill ? The tenant must evidently lye much at the mercy of the manufacturer of his grain, which may be productive of considerable real waste, if not from dishonesty, at least from that negligence attendant upon security of employment—productive, also, of much *imaginary oppression*, which, of itself, is probably the worst of grievances. In farms where the adstriktion extends to *all grindable corns*, it acts, like the English tithe, as a direct tax upon agricultural industry, increasing in proportion to the increased productive value of the lands, to the improvement of which, no share of the expence has been contributed,

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Where land adstricted to a mill is thrown into grazing, it is generally understood that no multure is exigible: Adstriction, therefore, can yield but a precarious rent. Suppose an adstricted farm, where the adstriction reaches *to the oats used as meal by the farmer's family*, has been possessed, for time immemorial, by one family; but that, in course of a demand for small conveniency farms, by people living by other professions, it shall have been divided into twenty distinct tenements, separately occupied by as many different families; and that the population it hath now to support is ten times more numerous: shall the adstriction, in this case, continue to be restricted within the extent of oats used as meal by the single family originally possessing the farm? or shall the adstriction receive a tenfold extension, and be interpreted to reach *to oats used as meal by the whole of these farmers families*? We may also reverse the supposition to the union of farms; and here, also, a fair field is opened for litigation, to decide whether the adstriction shall be contracted to the quantity of meal consumed in the single family now possessing; or shall be continued at the extent of consumpt of the whole families originally possessing the distinct farms before they were united. Does the adstriction, in short, continue always of the same invariable value? or, is it, thus, liable, from the various occupation or management of the adstricted lands, to be increased, to be diminished, to be annihilated?

It is surely to be expected, that an usage, so absurd in principle, and so vexatious and litigious in its application, will not long be suffered to exist under an enlightened British Legislature*.

Where the privileged mill and adstricted lands both belong to the same proprietor, one should think the interference of the Legislature in no way necessary; it is, indeed, surprizing, that, in all such instances, the good sense of the proprietor has not led him to emancipate his tenants from so preposterous a bondage;

* The above was written in 1796 or 1797. See the reason for not altering it, in the subsequent foot note.

dage; though I know but of few instances where such liberality has been displayed. Where the mill and adstricted lands are vested in different proprietors, it is not, indeed, to be expected that the adstriction should be given up without a proper equivalent: It were surely, however, a matter of no great difficulty for the Legislature to confer a right of forcing a sale of the adstriction, under some specified method, by which the price might be regulated, and the claims of all having interest might be adjusted. Why not let the whole be referred to juries, acting by appointment, and under the authority of the Judge-ordinary of the county? *

What

* An act, to enforce the commutation of thirlage into an annual payment in grain, according to the award of a jury appointed by the Sheriff of the county, or the Sheriff of the county where the mill is situated, if the servient and dominant tenements are in different counties, was obtained in 1799.—The above is retained as originally written, as the reasons of obtaining an act, are the same that should lead to embrace the privileges of it. By the act, no transient possessor can apply for the commutation during his transitory interest, the application being only competent to perpetual proprietors.

I have heard, as yet, of no instance of an application for the benefit of this act; which may be one example, out of many, showing that a grievance, which seems oppressive so long as we enjoy no method of redress, feels lighter so soon as we have it in our power to rid ourselves of it when we will. The same observation is probably somewhat applicable to tithes in England: The tithes of the clergy are exclaimed against, because the clergy, as a corporate body, can neither sell nor commute them: The tithe in the possession of the laity does not seem to have occasioned such clamour. Yet it is strange that lay impropiators still continue to possess, perhaps, an extent of tithe equal to that of the clergy. Their being empowered to sell, probably diminishes the anxiety to purchase. Perhaps, too, without a compulsory act to enforce a sale at present value, it might be difficult to agree upon a price with the holders of a property which progressively increases in value with the progressive improvement of the country, without any expence of culture.

Till uniform precedents are established, juries may be somewhat at a loss to ascertain the value of an adstriction. It is evident, that the adstriction is worth the excess of the adstricted multure above unadstricted multure, to the whole extent of the adstriction: But is it worth no more? If it is worth nothing more, then, on supposition that the rate of multure were the same under adstriction as at free mills, the adstriction is worth nothing, and liberty can afford no purchase money.

What farther remains to be observed, under this section, relative to rents, may be very shortly stated.

The distressing scarcity of fodder, occasioned by the extremities of cold and wet in season 1799, and of drought and heat in that of 1800, occasioned such an extraordinary mortality or slaughter of all cattle standing in need of Winter fodder, that the great diminution of black cattle gave an extraordinary rise to the value of sheep. Some few farmers, who have, of late, taken sheep farms in lease, (unaware, certainly, that the rise of sheep,

The following historical account of mills in Tweeddale, from Mr Charles Alexander in Easter Happlew, I think worth preserving.

It would appear, that a considerable number of corn mills, formerly existing in Tweeddale, have been allowed to fall to ruin. This would seem readily accounted for, in the following manner: That, formerly, the lands were subdivided among a greater number of proprietors; that, from a grudge at seeing the multure from the grain of their lands obtained at other peoples mills, each small proprietor was anxious to erect a mill upon his own lands; and that, through such short-sighted calculation, mills were soon multiplied to an extent far exceeding any demand for their employment: That, meanwhile, in order to obtain rent adequate to the expence of their erection (though without any just calculation of the loss that might otherwise accrue in securing it), heavy thirlages were had recourse to, both as to the extent of grain which the tenants were compelled to manufacture, and also as to the rate of multure, or price of manufacture; perhaps, too, from a silly conception of thus cunningly catching rent from the tenantry, in a way they might less grudge, from its being less apparent; as in the case of kind and carriage rent. But, as these small properties were gradually bought up, and united into large estates, the reasons no longer subsisted which had given origin to this multiplicity of mills: The greater part were therefore left to go to ruin, one only being preserved for each estate; the sly mode of catching rent, in a way supposed less apparent, leading, however to the continuation of the thirlage of the tenantry, to the old extent, and at the same rate of multure. This revolution, having produced no advantage to the tenantry, as to extent of thirlage or rate of multure, has also, in many instances, subjected them to the additional inconvenience of distant or incommodious carriage to the single mill upon the estate to which they have been transferred; instead of being accommodated, as formerly, with mills at their own doors.

It is probable that no real loss of rent would be incurred, were all such proprietors, by general consent, to emancipate their tenants entirely from thirlage; and to let their mills for what they would bring, on supposition of the tenants being at liberty to go where they pleased, for shorter distance, or for better service: Matters would come round, and the loss, on one hand, would be regained on the other.

sheep, within these few years, to more than a third above their ordinary value, can only stand till the deficiency of black cattle is supplied by breeding), are supposed to pay at the rate of from five to six shillings for every sheep's grafs. Previous to this, the rent of breeding sheep farms was supposed to average at rather better than three shillings per head of the stock kept on the farm; that of hill-feeding sheep farms at about four shillings, or four and sixpence.

Arable lands are sometimes let by measure. The croft lands round the villages, may let at from thirty to fifty shillings per Scots acre; those around the town of Peebles from forty to sixty shillings. These may be considered as mere conveniency rents. Arable farms, according to quality, in this county extremely various, may yield from six or seven, to twenty or twenty-five shillings, per acre. The highest rent per acre ever paid for a farm, of such extent, as that its management constitutes the sole occupation of the farmer, is that given of late for one in Inverleithan parish, which the proprietor himself had improved, and is fifty shillings per acre.

The rent to the landlord is almost all that the tenant pays for his land. He pays neither tithe nor land-tax. The half of schoolmaster's salary, a trifle of itself, (not amounting to one halfpenny upon the pound rent), though exigible, is almost never exacted. Poor's rates are seldom imposed, except in trying cases, such as, the dearths of crops 1799 and 1800; and, in these seasons, I believe, the poor's rates did not exceed, in any parish in Tweeddale, 4 *per cent.* upon the rent, or 2 *per cent.* *i. e.* 4½d. upon the pound of rent to the tenant. Statute labour, commuted at 8s. 4d. upon the 100l. Scots of valuation, cannot, in Tweeddale, amount to more than 3¼d. upon the pound of rent. Excepting window-duty, and the tax on riding and farm horses, the above are the only kind of compulsory taxes exigible from Scots tenants.

The whole rent of the county has been already stated (from the Statistical account) as amounting to about 26,000l.

In the Statistical Tables, subjoined under the article *Population*, it appears, that the number of sheep held in the county
amounts

amounts to 112,800. Supposing, therefore, three-fourths of these breeding farms for holding stock, and each sheep paying three shillings—*Inde*, 84,600 sheep, paying at three shillings a head, rent - - - - L. 12,690 0 0
 28,200 do. paying at four shillings a head, do. 5,144 0 0

Rent from sheep L. 17,834 0 0

The cows, young and old, are in these Tables stated at 4378; or, as some of these are in the Selkirkshire part of Invercithan parish, say only 4300. Suppose these can pay, overhead, of rent, at the rate of 1l. 10s. each; hence - - - - 6,450 0 0

Rent from sheep and cows L. 24,284 0 0

The remaining 1716l. of rent may be supposed to be made up, from horses reared above what supplies the breeding stock; and from grain sent to market, above what supplies the consumption of the farmers families and servants.

The average rent per English acre through the county, would appear to be considerably under half a crown.

The facts founded upon above, are chiefly collected from the statistical accounts. But various interests might prevent accuracy of statement in various articles. I should suspect the rents are stated low.

SECT. III.—*Tithes.*

The Clergy of Scotland are supported upon fixed *stipends* or salaries, modified out of the tithes of the lands, by the Court of Session.

The medium salary of a clergyman, I have understood to have been formerly estimated at 60l.; besides a house, and a glebe of land, consisting, at an average, of near ten acres.

The Court of Session had not, from its original constitution, any jurisdiction in the matter of tithes and stipends; but, by act of Parliament 1707, a commission was delegated to it from
 the

the Scottish Parliament, for the purposes of valuing of tithes, of plantation of kirks, and of augmenting the stipends of the Clergy. It was at one time conceived, that, so soon as the Court had fulfilled the purpose of this commission, in augmenting the clergyman's living in any parish, its power expired in that instance, and it had no right of future interference for the same purpose of augmentation. In course, it was an established maxim, that, without a fresh commission from Parliament, the Court could grant no subsequent augmentation to livings which had been augmented by it since 1707. In consequence, however, of a change of views in the Court, as to the extent of this Parliamentary commission, as also of the public opinion in regard to the slenderness of the Clergy's provision, the Court has, within these ten or twelve years bypast, departed from its usual maxims, and has shown a willingness to grant augmentations, whenever necessary, wherever there are funds for the purpose.

The Clergy have not been backward in embracing this favourable opportunity; and it is believed that, immediately, if not already, the medium of Scots stipends will reach to 100l. or 100 guineas, besides the dwelling-house and glebe.

The livings of the Tweeddale clergy have all received augmentations, since this change of maxims; with exception of that of Kirkurd, where the teinds have been all valued in money, and are all exhausted in payment of the present stipend.

The power of valuing, and for ever fixing the value of his teind, at a certain rate, howsoever much the lands may be subsequently improved in value, is a great privilege to the Scots landholder. Had it been made a rule (as in the late act for commutation of thirlage), that the teind should always be valued in an annual payment in grain; though the fund, out of which the Clergy were to obtain their provision, could not have increased in proportion to the improved production and value of the lands; neither could it have suffered a diminution in value, from the depreciation of money. As, however, there is nothing to prevent the valuation from being estimated in money,

ney, landholders have, by this means, not only obtained the justice of being at full liberty to improve the productive value of their lands, in the certainty of reaping to themselves the whole profit of their improvements; but they have obtained an iniquitous advantage, in having a perpetuity fixed in a manner which renders the bargain of gradually increasing advantage to them, and of proportionate increasing disadvantage to the other party *. The Scots landed proprietor is, at any time, entitled to raise a process before the Court of Session for the valuation, and also, if he chooses, for the sale of his teind; when, after proof of the free rent of his lands, the tithe is estimated at one fifth part of the proven rental; and the decree of the Court fixes it for ever at this precise extent, however much the lands may afterwards increase in value. The *free part* of this tithe (that is, what is not already appropriated to the clergyman) is payable by the proprietor to the titular of the teinds; but as it is to the titular a precarious fund, being subject to the future augmentations of the living of the clergyman of the parish, the proprietor can compel the titular to sell it him, at nine years, or at six years purchase, according to different specialties. When an augmentation of stipend is granted,

* In the case of the augmentation of the stipend of Lamington, the Court of Session seemed to manifest an intention of redressing this inequality, arising from the privilege of valuing tithe in money, by finding that such a valuation did not preclude them from allocating stipend in grain. It would have fulfilled every view of equity, had the Court, in allocating grain, estimated it as exhausting just as much of the money-teind as would have sufficed to have purchased it at the date of the valuation. If such was ever the maxim, it was not persevered in; for, upon a reclaiming petition, though the Court adhered to the maxim of their having power to allocate grain where teind had been valued in money; yet they found, that grain, so allocated, should be estimated as exhausting the teind at the rate of 15s. per boll. This procedure seems to be considered as a precedent for all similar cases: But upon what maxim it may be founded, superior to mere facility of compromise, it is difficult to guess. Where mere compromise is allowed to take place of general principles, it is very apt to betray us into inconsistency. In the same spirit, where grain is allocated upon money-teind, the proprietor may rid himself of the victual, by making a surrender of his whole money-teind, if only he makes his option within the years of prescription.

ed, the titular of the teinds of the parish can allocate to that purpose, in the first place, the whole free teind of such proprietors as have not purchased their teind from him: when these are exhausted, the remainder of the augmentation falls, *pari passu*, upon the tithes which have been purchased from the titular and those of his own lands, if he has any within the parish.

Important as is the privilege of the valuation and purchase of tithes, it seems to have taken place without much discernment of, or view to, its advantageous consequences. At the Reformation, the patrimony of the Church, consisting of the church lands, with the tithe of all other lands, was seized upon by the Crown: it was soon lavished away upon the favourites of the Court, by James the Sixth. Charles the First, upon his accession, amongst other devices for raising money, bethought himself of recalling the improvident grants made by his father, of the property that had belonged to the Crown: and, accordingly, in the first year of his reign, he raised a revocation and reduction of all these grants. The grantees (who, in the case of tithes, were called titulars of the tithes) being, however, found too powerful a body to be rashly attacked; and they, on the other hand, being apprehensive that the King might ultimately succeed; the affair ended in a compromise, in which it was agreed to submit the whole to the King's arbitration—assurance having, no doubt, been previously obtained, that he would not abuse the power thus given him to cut and carve for himself. Proprietors of land who had obtained none of the spoils of the Church, and had felt no temporal benefit from the Reformation, (it being of no moment to them whether they paid their tithes to a layman or clergyman, if indeed the latter were not more eligible in point of moderate exaction), were also allowed to represent their claims, in the arbitration, in regard to the tithes of their own lands—a measure probably adopted to strengthen the hands of the King in dealing with the titulars. In 1629, the King pronounced his decret-arbitral upon the whole matters submitted to him: In which he satisfies himself with an annuity to be paid him from each species

cies of tithe—an annuity which has never been collected since 1674; appointing also commissioners to value the tithes, for the purpose of ascertaining his annuity, which was to be a proportional part; and fixing a fifth of the free rent as the proportion which was to be held as tithe: Empowering also every proprietor of land to compel the titular to accept of the annual value fixed, instead of levying the *corpora* of tithe; or to sell the tithe altogether, upon the terms already mentioned. These decreets of the King were confirmed by the Scots Parliament in 1633, and commissioners were by it appointed for carrying them into effect: These commissions were renewed from time to time; and the last commission, before the Union, and consequent extinction of the Scots Parliament, was granted, as before noticed, to the Court of Session in 1707.

Scots landholders seem to have been slow in apprehending the value of this privilege conveyed to them. I am assured, that few of the more ancient processes of valuation of tithe seem to have been raised at the instance of the proprietors; but at that of the commissioners, for ascertaining the King's annuity; or of the titular, to ascertain the surplus teind he was entitled to receive. From the barbarism of the country, it is likely, few proprietors entertained any conception of their rents rising in consequence of improvement.

Constitutions, apparently oppressive, are often more so in appearance than in reality; such, in all probability, is the case with the tithes in England. To the Scots landholder, privileged as he is, it may appear hard, that the tithe of the Clergy should rise upon him, in consequence of improvements made solely at his expence, and to which they have contributed no share. As, however, the clergyman will, doubtless, in general, find it convenient to live upon good terms with his parishioners, it is presumeable that he will ordinarily consent to accept of a very easy composition. The farmer (who, in taking his lease, must, no doubt, make allowance for the possible exaction of the whole tithe) will, therefore, always find himself easier, under the moderate composition of the clergyman, than he could have done under the proprietor, supposing

supposing there was no such thing as tithes ; because the latter lies under no restraints of this nature, to prevent him from exacting full rent for the whole value of the subject. Thus would it seem probable, that tithe so far operates to the encouragement of the farmer, in preventing him from being disabled to carry on his improvements by a rent racked to an exorbitant stretch : But the improvements which suit a farmer, upon any proper length of lease, are of equal importance to the increase of the productive powers of the soil, as those longer-sighted improvements of more distant return, that are suited to the more permanent interest in the subject, of the perpetual proprietor. Without doubt, the clergyman, as well as the proprietor, expects to reap where he has not sown ; and, upon a renewal of lease, will look for a rise in composition, as the other will for a rise of rent, proportioned to the increased value of the subject ; though improved entirely by the proper outlay of the farmer's capital, and though neither have contributed one farthing to the improvement. If, however, the lands shall have, meanwhile, been improved in productive value, it must be a matter of small concern to the public, whether he who reaps the immediate benefit shall be a fox-hunter or a preacher. Extraordinary things are alone thought worth reporting ; and the instances of oppression of the farmers by the Clergy, which reach us in Scotland, candour must therefore dispose us to consider as the exceptions from the general rule. Such seems to be the favourable view of this subject. But when it is considered that neither landholder nor farmer can, at best, have any farther security for a favourable composition obtained, than the uncertain incumbency of the compounding clergyman, with the presumeable good disposition of his eventual successor ; the disadvantage to improvement must still appear very considerable.

Were an arrangement settled by law, under which the English tithe could be impartially valued—without the odium of rigorous exaction attaching to the Clergy—at same time preventing the possibility of fraud and chicane, doubtless pretty prevalent at present ; it cannot admit of question, that the re-

venue of the Clergy would, in the first instance, be very greatly augmented *. And it seems to be as little doubtful, that, upon fixing the value of the tithe, the rapid progress of improvement, on removal of this incumbrance, would soon much more than indemnify the expence of the immediate rise in the value of the tithe.

It is presumable, that, in the event of the agitation of such a measure, Martin will avoid the infatuation of his brother Jack; who, in the intoxication of applause for his zeal, in tearing, from the coat given by his father, the meretricious ornaments assumed through evil persuasion of brother Peter, tore stuff and all, to tatters, so as hardly to leave himself wherewithal to cover his nakedness: And, that the equity of a British Legislature will no more consent to give, without proper equivalent, the property of the possessor of one tenth, to the holder of the other nine, than to give the property of the holder of nine tenths, gratuitously, to him who possesses one. The character of injustice is invariable, whether practised upon a larger, or a lesser scale.

Grain, or lands, constitute the only permanent values upon which to settle annuities for perpetuity. In the view of public utility, it seems, however, very inexpedient, that the income of individuals, composing a corporate body, should arise from lands held in property by the corporation: The existing individuals having but a life-ent, or even shorter interest in the subject, no improvement of it is to be expected from them; but such trifling ones as cost little expence, and immediately repay; none of those most important ameliorations, of expensive outlay, and of distant return, which suit those alone, whose property is *exclusively personal, alienable, and transmissible*.

* I understand, that, in several of the reports of English counties, this augmentation of the tithe is stated as the great objection against a commutation; it must certainly, then, be very laxly exacted. Perhaps those who are most clamorous for a commutation, flatter themselves with the prospect of an unfair valuation.

TABLE, SHEWING THE PROVISION OF TWEEDDALE CLERGY.

The victual part of the stipend, generally one half oatmeal, and the other, beer in grain, is here converted at the rate of 15s. per boll. The glebes are valued at 11. per acre, Scots; that of Peebles at 21. Excepting where they can, without inconvenience, be kept in grass, the possession of a glebe may, however, be considered as constituting an article of expence, rather than of profit, to the clergyman: as, when kept under tillage, a preparation for labour must be maintained in readiness, of which the return of produce from such a small possession cannot defray the expence. The money stipend includes from 31. to 51. allowed the minister for the expence of administering the sacrament of the Lord's supper, called communion elements. No valuation is put upon the minister's manse or dwellinghouse.

PARISHES.	PATRONS.	PROVISION OF THE CLERGY.			
		Money Stipend.	Bolls of Victual.	Acres Scots in Glebe.	Whole Value of Living.
		L. s. d.			L. s. d.
Linton	D. of Queensberry	56 13 4	110	13½	152 13 4
Newlands	Do.	64 0 0	96	16	148 0 0
Lyne & Megget	Do	104 3 4	—	14	121 3 4
Broughton	Do.	56 0 0	48	22	114 0 0
Glenholm	Do	46 13 4	96	9	127 13 4
Tweedfmuir	Do.	75 0 0	48	10	121 0 0
Drummelzier	Do.	74 2 0	74	10	139 12 0
Mannor	Do.	91 16 10	—	24	115 16 10
Peebles	Do.	100 0 0	64	6	160 0 0
Inverleithan	Do.	70 18 6	65½	10	130 1 0
Kirkurd	Mr Carmichael	70 0 0	—	19	89 0 0
Skirling	Do.	50 11 0	80	8	113 11 0
Kilbucho	Col. Dickson	55 0 0	80	11	126 0 0
Eddlestone	Lord Ellbank	68 17 0	80	25	153 17 0
Traquair	The Crown.	58 16 0	88	11½	136 6 0
Stobo	Sir Ja. Montgomery	68 0 0	64	21	137 0 0
Total	- - - -	1110 11 4	993½	230	2090 13 10

Several of the Duke of Queensberry's patronages are fold. The parishes of Glenholm, Kilbucho, and Broughton, are annexed together, as the incumbencies shall cease.

SECT. IV.—*Poor's Rates.*

(See CHAP. XV. SECT. VII.)

SECT. V.—*Leases.*

SOME political writers have ascribed the early and flourishing state of farming, in England, to the wide diffusion of the right of franchise; which, by creating a mutual dependence of interest betwixt the landed proprietor and the farmer, causes the interest of the latter to be more attended to; rendering the security of a lease of the less importance. Whether this seeming advantage may not be counterbalanced by other disadvantages, appears to be very questionable*. As the Scots farmer possesses no tie of this nature, his sole security of tenure, to excite his industry, must be founded in the legal or conventional obligations of his lease; which renders the lease of such importance in Scotland, that its proper, or improper construction may be well considered as the primary source of good or bad husbandry.

More general observations upon this subject, I have referred to note D at the end of the Report. In this place, I shall confine myself to the statement of the different effect of leases, in this county, as stimulants to the tenant's industry, *in respect of their duration*, as experienced in fact.

We possess, indeed, in this county, no very extensive range of experience, as to the comparative effect of leases of different endurance, in exciting the occupying tenant to improvements of permanent duration, and of expensive execution; though, from a singular occurrence of circumstances, our experience is probably more enlarged than that of many other counties.

No very permanent or expensive improvements, have ever, with us, been made, upon the short security of the lease for nineteen years. One farmer, upon the farm of Stevenston, in Newlands parish, under this security, planted about two acres of

* See Note E, at the end of the Report.

of firs, as a *fell*, or shelter, for his sheep; which continues to be of very great advantage to the succeeding tenants of the farm. The most considerable exertion ever yet made, upon such short security of possession, is that of Mr Scot, a farmer upon the estate of Traquair: He has cut off from his sheep hill pasture, by a head-dyke of stone, better than seventy Scots acres of land, fit for tillage, at his own charges; and has reduced the whole into an high state of cultivation, by the turnip and sown grass husbandry, after clearing it of stones, at very considerable expence. The example, however, of this tenant, cannot be interpreted into a precedent, for expectation of what may be effected upon the security of tacks of so short endurance; because his situation is, in some respects, singular—he is the *first*, in that quarter, who has displayed such spirited exertion, and may, of course, have received some few favours, to which he is so well entitled; and may have entertained, not unreasonably, a reliance for a preference, against the next letting of the lands.

But the greatest exertions, out of all comparison, that have ever yet been excited among the Tweeddale tenantry, are those that have ensued upon the security of the fifty-seven years leases granted upon the lordship of Neidpath, about the year 1788*. Although the tenants were obliged to advance
fines

* This estate is under strict entail; and as it does not remain in the present possessor's family, he has no farther interest in the subject, than to draw from it all the money it can yield him. The late leases were offered, at the then present rents, for fifty-seven years; upon condition of paying a *grassum*, or fine, at entry, proportionate to the advance rent that might otherwise have been expected. The tenants consulted Counsel, as to the powers allowed by the entail; when it was found, that it contained no clause directly restrictive of the duration of the leases that might be granted; though there was a later clause referring to a restricting one, which might thence be inferred to have been intended, though omitted; but nothing to indicate the extent of the restriction seemingly intended. The tenants accepted the leases, upon the opinion given them, that entails were, in their interpretation, *strictissimi juris*, in which nothing could be inferred by implication beyond what was directly expressed.

The late decision of the House of Peers, in the case of *Tillicoultry*, in which it was found, that the heir of entail in possession was not debarred from even the *ab-*

finances at entry, (here designed *grassums*), which, by curtailing the tenant's stock, disabled him, so far, from carrying on improvement; yet (as credit could easily be obtained, where needed, upon security of leases of such long endurance; disencumbered, as they were, from their very length, from all the absurd embargoes upon agricultural credit, originating in the deprivation of the power of alienating the lease, which is essential to the Gothic right of *delectus persone*, supposed inherent in every proprietor of land), a spirited style of improvement immediately commenced; which, for expence of outlay, and distant prospect of return, were (according to any ideas we had been accustomed to conceive) suited only to perpetual proprietors of land; and not at all to be expected from temporary possessors upon expireable tenures.

Almost all of them have already built to themselves, at their own expence, commodious dwellinghouses, mostly of two stories, and covered with slate; and also farm offices, in several instances, of extensive range, and including thrashing machines, and covered in the same manner. Plantations of wood have been made, as shelters for the sheep. Mr Murray, in Newlands parish, has, for this purpose, inclosed and planted from eight to ten acres upon his farms.

Most substantial improvements have been also executed upon the arable part of the farms of this estate. Mr Symington, in Peebles parish, has cut off from his sheep hill pasture, on the farm of Edstone, by a head-dike of stone, upwards of an hundred Scots acres of arable land; which he is subenclosing into separate fields, as each portion shall, by culture, be brought into a state worth separate enclosure. Mr Gray, upon his farm of Lyne, in the parish of that name, has completely fallowed, cleared

solite alienation of that estate, merely because the restriction against alienation was not duly inserted in the resolute clause of the entail, (although directly expressed in the prohibitory and irritant clauses of that deed), would certainly seem, *a fortiori*, to render the security of these long leases unquestionable. The hardship of entails is thus redressed in particular instances, by refusing them legal support, upon any specious pretext. A general law would prevent the expence of particular applications.

cleared of stones, and substantially enclosed, in separate divisions, by stone dikes, five distinct fields, consisting of about fifteen Scots acres each; to be kept in constant rotation of tillage, under a course of five shifts, viz. turnip fallow, barley with grafs, hay, oats, peas; thus enabling himself to render his sheep and arable farming mutually subservient, by fattening off his cast breeding stock upon the turnip, to the great enrichment of the soil; or to connect the dairy to his sheep farming, from the abundant green feeding to his cows, of clover cut green in Summer, and of turnip in Winter*. Mr Alexander, another farmer upon this estate (already mentioned in the note, page 94.) in the farm of Easter Happlew, parish of Stobo, besides building a slated dwellinghouse of two stories, with a convenient court of farm offices, all likewise slated; had, so early as 1796, inclosed and subdivided with stone dikes, and brought into high cultivation (many acres having cost at the rate of 30s. *per* acre for clearing away stones, besides those used for building) no less than one hundred and twenty acres of arable land; an exertion, at least, equal, if not greatly superior, to any that has ever yet been made, in this county, on any one farm, in the same space of time, by either farmer or proprietor: This was part of his scheme, since followed out, of inclosing one hundred and fifty Scots acres, subdivided into ten separate inclosures of fifteen acres apiece, intended to be kept under a constant rotation of tillage, which admitted of recurring intervals of pasture †.

From

* Mr Gray's land, which he intended to inclose, being encumbered with earth-fast stones, he, at first going over, gave every field a complete bare fallow with lime, without any green crop; that, by repeated cross-ploughings, he might be enabled to discover every stone which obstructed ploughing: these were blown to pieces by gunpowder. The inclosing went on at same time with the fallowing; the stones, with which the land abounds, being used as part of the materials of the stone dikes. His farm containing much low land, he finds profit in buying in sheep to eat his turnip crop, rather than in fattening his own off-cast breeding ewes; which are kept on, through Winter, and sold, great with lamb, in the Spring.

† The farm of Easter Happlew was a breeding sheep farm, of middling extent, in respect to the number of sheep kept upon it; but containing, in its lower parts,

From the œconomy necessary to such extensive undertakings, the stones used in enclosing were chiefly gathered from the land; which, being rounded in course of repeated friction by the plough, stand not so firm in building, and occasion need of more frequent repair. Those, however, who take a view of the many flimsy attempts at enclosure, by hedge and ditch, through the county, will not be much disposed to disapprove of the stone dikes upon Easter Haprew. Our propensities, in Scotland, seem to lead us to extravagance in the expence of means,

parts, a great extent of flat land, and land of such gentle acclivity, as is easily cultivateable by the plough.

Before Mr Alexander's occupancy of this farm, it was managed in the usual style, already pointed out in describing the *mode of occupation in sheep farms*.

Encouraged by his superior length of lease, Mr Alexander immediately saw the advantage of launching into a scheme of farming, inferring more extensive outlay of capital, and a more distant period of return, than what was any way suited to the interest of a farmer, upon the transitory security of a nineteen years lease; and which, of course, was unprecedented in the accustomed practice, formed in consonance to the views suited to this short, but usual, tenure of the farmer's possession.

He determined upon a system that should make his sheep and arable farming mutually subservient to each other; and which, properly to accomplish this object, inferred an extensive enclosure of the arable part of the farm.

His original scheme was, to fatten all the sheep reared upon his farm, by the means of improved pasture or turnip feeding, upon the low arable parts of the farm; instead of disposing of them, as they were formerly wont to be disposed of, for holding stock: In short, to feed all that he reared upon the farm, and to rear all that he fed, whether sheep or black cattle. In this way, his hill sheep were to be brought to that superior value they would possess, when disposed of fat instead of lean; while, at same time, his low land would receive the advantage of the dung, urine, and paddling of his sheep fed upon the turnip fields; together with that of the nightly folding upon contiguous fields (to which they could be carried from, and from which they could be remitted to their pasture with little interruption) of his ewes and lambs feeding, through Summer, upon his improved pasture parks. A number of bullocks were also to be annually bred, in order that the calf, of proper age, might be house-fed with turnip; while the younger should consume straw and turnip shaws in a straw court; that their dung, together with that of the other housed labouring or milking cattle, might be carried to that enclosure, on the low land, which fell to be under turnip crop, in the course of the rotation.

means, disproportionate to the ultimate profit to be obtained: Witness the canal, made previous to the trade, betwixt the Friths of Forth and Clyde, upon a scale that has admitted of the passage, without unloading, of a ship direct from Sweden; which, for many years, yielded 1 *per cent.* to the subscribers, and was at last finished by aid from Government. Inclosure

is

The rotation proposed, was that of ten shifts, corresponding to the number of the inclosures, viz. 1st, turnip with dung; 2d, barley (or oats on the wildest ground), sown down with grass seeds; 3d, hay; 4th, 5th, 6th, 7th, pasture; 8th, oats; 9th, peas; 10th, oats; or (if it should be found more eligible), after the hay, to have the 4th, 5th, 6th, 7th, 8th, 9th, pasture; the 10th, oats; when the rotation re-commences. A scheme, too, was laid down for bringing into culture, such parts of unenclosed arable outfield, contiguous to the enclosure, as lay on such steeper declivity as made it inconvenient to carry dung to it in carts; and this was by folding upon it, with the sheep feeding in the enclosures: The land to be so folded, is ploughed the year before folding; and, early in Spring, is cross-ploughed, and reduced by the break-harrow, then ploughed again, and smoothed with the common harrow; a broad border all around being reserved unploughed, to afford fod for building the fold dike: After being dunged by the folded sheep, it receives a fourth ploughing, when it is fit to be ridged for sowing drilled turnip. Mr Alexander informs me, he divides this fold into three distinct parts, by dike or wooden flakes; the two first parts are teathed, in time to produce the one very good, and the other middling turnip; the last is too late of teathing to be sown for turnip, but in fine preparation to be sown out, the succeeding season, with oats and grasses, along with the two parts which carried the turnip: If he can get it accomplished, these folds are limed either before the admission of the sheep, or the sowing of the turnip, or the sowing off in grass: and the same general principles of rotation are adopted in these lands, as in the enclosed land.

When Mr Alexander commenced practising upon this system, he brought down annually a certain portion of his hill ewes with lamb, and fattened both lamb and dam upon the artificial pasture of the enclosures; teathing some of the outfield as above; or (when he began enclosing) teathing what was to be next enclosed, (which, in part, was but outfield), by folding them upon it. A spring crop of late sown turnip upon part of this teathed land, put it in his power to have the next year's portion of ewes for fattening earlier tugged; as, from these spring turnip, they had food to bring them in milk, before the springing of the grass; one improvement in agriculture thus always facilitating the succeeding ones. Whilst he continued to feed his own hill sheep, he kept always the lambs of his very youngest ewes for breeding flock; as the older, being less restless, and having more milk, fed both themselves and their lambs better, under confinement of enclosure; it is unusual to retain the lambs of youngest ewes for breeding flock, because their

lambs

is but the mean to impart command of the soil for conversion to agricultural improvements: If the expence of the execution of the mean shall deprive us of the power of accomplishing the end, our county proverbial story will become applicable;—*of the boy who had got a penny, and laid it all out in the purchase of a purse to keep it in.*

Such, then, are the exertions which, in this county, have been excited, upon the security of the fifty-seven years leases. From the agricultural report of Berwickshire, it would appear, that this pattern county of Scotland has also owed its superior improvement chiefly to the strenuous and æconomical exertions of the tenantry, under the excitement of the security of leases of long endurance.

In so far as I can obtain information, we have had no experience in this county, of the effect of the thirty years leases, which,

lambs are always of less size; but Mr Alexander persuaded himself, from anatomical reasons, as well as from analogy to what takes place in the human species, and other animals, that, though the first-born of the mother is the least, as an infant, this prevents it not, at mature age, from attaining to the usual size of the animal of that species.

Such are the general outlines of Mr Alexander's practice. He writes me, that, of late, he has altered, in some respects, his original system. His rearing bullocks, being kept on improved pasture in Summer, did not Winter so well upon straw as those from coarser Summer pasture; he therefore now buys in winterers to carry on to, or half fed beasts, for immediate Winter house-feeding upon turnip. He says he has also begun, so far, to alter his system as to sheep: He retains his former black-faced breed for his hills, but is getting a finer woolled kind for his low improved pasture; and these two breeds he keeps perfectly distinct: The kind he has chosen for his low pasture, is a mixture of the Mugg with the Bakewell, which he looks upon as the handsomest sheep of any he has seen introduced into the country; the experiment is, however, but newly begun. The quantity of land annually teathed by 300 ewes with their lambs, pastured in the enclosures on improved pasture, and folded on the outfields, as above explained, was eight acres; and the profit of their dung, estimated from the crops it enabled him to procure, in a situation where no dung could otherwise be procured, he estimates at the rate of 2s. annually from each sheep.

A ten course rotation of this kind, upon land, too, of which a great part had to be brought from a state of nature, at a great expence; together with enclosing, entirely at the farmer's expence; all this constitutes a scheme of farming which Mr Alexander thinks he could not have adapted, consistently with his interests, upon a lease of shorter endurance than the three nineteen years.

which, by act of Parliament, 10th of his present Majesty, proprietors of entailed estates are empowered to grant, upon condition of the total enclosure of the farm on the part of the tenant. In many instances, the fee-simple of the farm might not defray the expence of the enclosing; or the expence might be altogether disproportionate to such additional benefit as is reaped through means of enclosure; or enclosure (as in Carse lands, where there is no pasturing of cattle) might be of prejudice; or universal enclosure might be useless, though partial enclosure might be highly advantageous. In the act, no modification is allowed, any way equal to the variety of differences that may occur; which, indeed, it is impossible to foresee, and provide for; and, for which, a proper modification of the general principle could alone be settled, with propriety, by a Jury upon each particular case. Tenants, in most cases, it is said, prefer a nineteen years lease, with its usual legal privileges, upon entailed estates; rather than subject themselves to the legal prestations, so often inexpedient, which they would be subjected to, upon embracing the advantageous duration of lease held out to them by this act. After some inquiry among men of business, I have heard of few instances of leases taking the benefit of this statutory latitude. The bill, I have understood, met with such clamorous opposition from eventual expectants upon entails, that its supporters were obliged to compromise the matter; and to content themselves with what they could obtain, since they could not obtain all they could have wished. If it is thought expedient, that, in this instance, public utility should interfere in counteracting the cramping influence upon improvement, produced through the policy of entail, it would seem that this act would need to undergo a revision; else it must continue, as it hath hitherto remained, in a great measure nugatory.

In a country already improved, where the tenant enters upon immediate advantages, without necessity of great advance of capital; leases may, with less inconvenience, be of shorter duration: But in a county like Tweeddale—where so little, till of late, hath been done—where so very much remains to be done,

done, to carry improvement to its attainable height; particularly in rendering sheep and arable farming mutually subservient, by means of substantial enclosure, as well as of surface culture; long leases seem indispensable. Fifty-seven years may probably be more than necessary, though thirty might not be sufficient; unless, indeed, we were to suppose such permanent improvements to be universally executed by the proprietors; which few of them could attempt, without borrowing money, which they would scruple to risk; and none could execute, but at almost double expence at which they could be executed by tenants having sufficient interest in the execution.

SECT. VI.—*Expence and Profit.*

IT hath often been observed, that agricultural calculations are extremely fallacious. In regard to most of them, the presumption is, that the result is the first thing determined, and that the *data* of the calculation are then fabricated to give that result: The variations in the extent of crop, according to difference of seasons, with the variations in price both of corn and cattle, from the varying rate of markets, allow of great latitude of assumption as to the *data*; without incurring danger of offence to probability: Besides, without any direct intention to deceive, farmers are apt to be betrayed into extenuation of their profits, from anxiety to conceal them; whilst projectors, for the credit of their schemes, and proprietors, indulging flattering imaginations of the value of their lands, are misled into exaggeration; even the reporter of a county, through a confined sort of patriotism, is tempted to give importance to the place of his nativity, by magnifying the value of its produce. Possessing, myself, small knowledge of such details, and aware of such multitudinous causes of deception; I have judged it unnecessary, either to fabricate detailed statements myself, or to procure such fabrications from other hands; in the conviction, that, notwithstanding the appearance of accuracy which they exhibit, nothing certain is to be learned from them.

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If any one chooses to make calculations of the value of the produce of sheep farms, in order to ascertain what rent they may afford; the *data* of such calculations are laid before him, in the tables already given, of the produce, and application of the produce, of sheep, in sheep farms, of different descriptions. And if he considers the rates of price, as they existed at the end of the American war, whose effect seemed to be the depreciation of every article of farm produce; or as they existed during this war, which seemed as much to augment their value—if, in particular, he attends to the extravagant enhancement of the price of sheep in the seasons 1801-2, apparently occasioned by the diminution of the breed of black cattle, through hunger or the butcher, in consequence of the extreme dearth of fodder of crops 1799 and 1800; he will then find a latitude of supposition in respect of prices, to the extent of difference of more than two to one. For example, he may state the price of the wedder hogs of Table I. at any price, from 7s. to 15s. apiece; the cast-off breeding ewes, if sold to the butcher, or for farther feeding, at Martinmas, from 6s. 8d. to 16s.; or, if kept through Winter, and sold heavy with lamb to the grazier, from 8s. to 11. 4s., the wool from 2s. 6d. to 10s. per stone. The price of wedder lambs in Table II. might, in same way, be stated at from 3s. 6d. to 8s.; the ewe lambs, from 3s. to 7s.; the cast-off breeders, and the wool, at the same prices as in Table I. In Table III. the fat lambs, from 4s. 6d. to 10s.; the cast-off breeders, at Martinmas, from 8s. to 18s.; wool, from 4s. 6d. to 12s.

Having, from such *data* of what has been, ascertained what will be the probable price of the produce of the farm during the currency of the proposed lease; our calculator's next business will be, to state the charges that fall against the produce; and these are, the interest of the capital advanced by the farmer, the current expences of management, together with that remuneration to the farmer, above the mere interest of his capital, which may induce him to take the trouble of managing its application himself, rather than lend it to another who would

pay him interest for it, without putting him to any manner of trouble.

The capital advanced, in all breeding farms, is the purchase-price of the breeding stock, at Whitfunday, the common and proper term of entry to the farm. As the bringing of strange sheep into a farm, particularly from better and more sheltered pasture, to what is poorer and more exposed, is ever attended with risk: As even, in many farms, strangers are apt to take diseases which are not incident to the natives: As, in every description of farm, sheep, habituated to the ground and its boundaries, are easily kept upon it, without need of much molestation from the shepherd's dog—a circumstance which, for the first year, will make the farm suffice to graze a considerably greater number of sheep that have been bred upon it, than of strangers brought from another farm: For these different reasons, the intrant tenant is willing to pay at the rate of ten or twelve *per cent.* more of price for the holding stock of breeders upon the farm, than any other description of purchaser could afford. The intrant tenant would be willing to give that price for the whole stock of breeding ewes (excluding merely the hogs retained to supply the stock), which a grazier could afford for the ewes of full growth, and in full vigour; that is, for the stock, exclusive of the hogs, the gimmers, and the crocks. Thus, the stock of farms (Tables I. & II.) might be estimated, with the latitude already noticed, at from about 9s. 6d. to 11. 8s. apiece; and the hogs retained for keeping up the stock, from 8s. to 17s. The stock ewes of Table III. at from 11s. to 30s.; and the hogs, generally bought in as lambs upon such farms, at the same price as those of Tables I. & II. In Table I. the staple disposeable produce being hogs, and the time of marketing them being the beginning of July, the outgoing tenant must make bargain with the intrant, to allow them to remain upon the farm from Whitfunday, the term of entry, to July; or the intrant must purchase them at a price somewhat inferior (say by from 6d. to 1s.) *per head* cheaper, than what may be supposed will be the market price at the marketing season. In regard to all these farms in the Tables, as the bargain for the
stock

stock is generally made some months previous to Whitsunday, the ewes are all sold under insurance of their being pregnant, and a small deduction of price is allowed in every instance that shall afterwards occur of mis of lamb. The deduction for mis of lamb is not, however, considerable; because the price fetched by a barren (or *yeald*) ewe at Martinmas, will, from her superior fattening, prove little inferior to what is fetched, upon the whole, from both a dam and her lamb for the season; the dam fattening less, from the exhaustion of suckling her lamb. If there is no arable land upon the farm, family maintenance ought to be stated to capital advanced, for the period intervening betwixt the term of entry and the commencement of the sales from the farms, as marked in the tables; as also, *meal* for the herdsmen, the rest of their fee being paid in the privilege of grazing a certain quantity of sheep along with the master's. If there is arable land attached to the farm, a separate account may be opened for it; the family maintenance may be charged against it; and will accordingly fall to be stated to account of capital advanced for one year and an half, or till the second Martinmas after entry to the farm, when the intrant reaps his crop.

The current charges to be stated against the annual returns, where there is no arable land, are, maintenance for the farmer's family; meal, at the rate of $6\frac{1}{2}$ bolls of oat meal *per annum* to each, for his herdsmen, the rest of their maintenance being compensated by privilege of grazing a cow, and her Winter's fodder, from coarse natural hay of the farm; amount of salving (or *smearing*) with tar and butter, at the expence of about 4d. each; the expence of feeding the sheep, when necessary, in snow storms, at the rate of about $1\frac{1}{4}$ pound English weight to each sheep through the 24 hours; marketing expences, and allowance for incidents.

After deducting these current charges, together with double interest for the capital advanced, to compensate the tenant's personal trouble for employing it himself, instead of lending it out at interest, with an allowance for tear and wear, and
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for insurance, the remainder of the produce should go for rent.

The herdsmen, as observed, are allowed, in general, to graze so many sheep along with the master's, in lieu of money-wage; thus securing their diligence, by giving them a common interest in the concern, as copartners; though, in this way, there is a temptation to make all the incidents of mifs, or death of lambs, fall to the share of the master. The common extent of this allowance is, upon farms of the description of Tables I. & II., the grazing of from 45 to 50, including the hogs retained for keeping up the herdsmen's stock; and in the description of Table III. from 30 to 35, hogs also included. The Tables show the stock kept by the master.

The proportion of produce from the sheep, to that from the arable lands attached to the sheep farms, varies in every farm. In the greater part of Tweeddale sheep farms, the produce of the arable part, is accounted little enough to be allowed for family and herds maintenance, or a few more of the current charges; and the rent is expected to be paid solely from the produce of the sheep.

CHAP,

 CHAP. V.

 IMPLEMENTS.

OUR improved implements being all derived from more early improved counties, in the surveys of which they are described, it would be superfluous to enter into minute descriptions of them in a report of Tweeddale.

Ploughs, used for land easily tilled, are, within these few years, almost all of the construction introduced by Small, with knee'd coulter, and curved mouldboard, such as is recommended by Dalkeith Farmers Society, and double muzzle, to temper the direction, and regulate both the breadth and depth of the furrow-slice. The *Scottish plough*, of a light construction, is preferred for lands abounding in stones; its superior length of head rendering it less liable to be jostled from its direction. This same plough, of strong and weighty construction, is also preferred for tearing up coarse lands from a state of nature, when covered with heath, bent, whins or sprots; in which case, oxen are commonly conjoined, in the draught, to horses. The Scottish plough, with mouldboard of straight deal, may probably answer nearly as well as any other, in land which is covered with firm sward, and where the furrow-slice turns over continuous, and without crumbling to pieces; but, in finely pulverized soil, it can hardly be expected to effect more than merely pushing the earth to one side: In such soils, the curvature of Small's plough, continued from the very point of the sock to the extremity of the mouldboard, seems indispensable to make the plough carry on the fourfold operation of *undercutting*
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the furrow-slice, *raising* it up clean, *removing* it to one side, and *reversing* it, to expose a new surface to the air.

Cleaning ploughs, of various constructions, are used for dressing drilled crops, on green crop fallow; such as, the one with double mouldboard, for setting up the earth to the drills. Very commonly, both processes, of paring earth from, and setting it up to, the drills, are performed with a single mouldboarded plough; no doubt, with considerable loss of time in the latter process. We have a paring plough, of very light construction, with a right-hand mouldboard fixed, and a left-hand one, which can be taken away at pleasure; which last one is also provided with a regulator, to set it at a greater or less width, when the plough is used as a double mouldboarded plough. Two instruments, for reverse purposes, are, thus, economically comprehended in one, though the latter purpose may be a little more imperfectly performed. We have seen, in the neighbourhood, a double plough, with two distinct coulters and focks and mouldboards, (the two mouldboards placed, the one on the right-hand plough, upon *its* left side; the other, on the left-hand plough, upon *its* right side—so as to turn their furrows against one another, into the interval betwixt the two ploughs.) It goes in the interval betwixt two ridges, and must evidently appear a very imperfect instrument, liable to be impeded by a very small stone or clod sticking betwixt the mouldboards, at the hindmost ends, where they must necessarily approach very near to each other. We have heard, but have no experience, of another kind of double plough, which goes along a single ridge, paring both its sides at once, and throwing the earth off to right and left, the crop upon the middle of the ridge escaping in the interval betwixt the two ploughs. A description, with a figure of this plough, is given in the *Scottish Farmer's Magazine*, No. IV.—(a work which seems to be ably conducted; promising to be of great use in disseminating the knowledge of practical agriculture, particularly as, I am informed, its extent of circulation has already far exceeded the hopes of its most sanguine supporters.) A new mode of paring the drills of turnip fields with a single mouldboarded plough,

plough, lately fallen upon by Mr James M'Dougal at Linton, formerly mentioned, may probably supersede, as to that fallow crop, the use of both these kinds of double ploughs. He pares only one side of the ridge, going as near as may be to the plants with the plough, and throwing the furrow-slice (overlapping and overwhelming the untouched weeds) close to the foot of the plants upon the ridge on the right hand. The operation is reversed, at next going over the field. The inconvenience of obstruction incident to the first mentioned double plough, cannot here occur; and the inconvenience of paring both sides of a ridge at once, arising from too much exposure to drought, is also equally avoided; while, at same time, this half-paring suffices equally well, and, in some respects, better than the whole paring, in equal time, performed by the double plough. Sir George Montgomery of Magbiehill, (who is curious in agricultural instruments), has introduced a paring plough, upon the principle of the Dutch hoe, which, at one operation, cuts the weeds in the bottom of the furrow betwixt two ridges, paring or scraping also the sides of both.*

A draining plough, of his own invention, has been successfully used by Mr Sanderson upon his small sheep farm, which he rents near the village of Linton. It is drawn by six horses; and, by means of one coulter descending to the left from the beam, and of another coulter (or wing, like the cutting wing of a peat spade) rising up to the right from the sock, it cuts, and clears out, at once, a drain of two feet by eighteen inches. It might be of great use in many sheep farms, in draining soft boggy lands, where its operation would not be obstructed by stones. *The miner*, a kind of draining plough, has, very lately, been introduced by Sir George Montgomery. It hath a very strong beam, into which is fixed a long and strong coulter, to clear, in part, a passage for the sock; which is a pointed piece of cast-iron, of about fifteen inches in length, round, about the thick-

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* In No. X. of Farmer's Magazine, an account of a plough, with a coulter rising upward from the sock, is given, which promises much advantage as a paring plough.

nefs of a man's arm, and connected by a strong broad bar of iron to the beam. It is drawn by six horses. It is intended to follow in the furrow after another plough, the sock going deep in the till, and forming, as it goes along, a conduit-pipe for the passage of water. Even supposing the conduit, so formed, not to remain for any time permeable by water, the very breaking of the till, so as to allow more water to lodge in it, must constitute a very considerable improvement in thin soils, upon a retentive till bottom, as, in this way, such soils may receive and hold more rain-water, without poaching; nor will the moisture be so suddenly exhaled, as to cause them cake in drought.

Drill-ploughs, (or *Barrows*), for sowing turnip-feed, all agree, now, in this part of their construction, that the feed is made to pass from a covered hopper, down a spout, at the back of the coulter, into the rut made in the ridge by the coulter; thus securing the feed against both wind and rain in time of sowing. The machine runs upon two wheels; and, in one kind of construction, the wheels are made fast to the axle, which passes through a brass nut, in which the hopper terminates, from whence the feed is received into dimples in the axle, which, as it turns round, delivers it into the spout fixed to the back of the coulter. In another construction, the feed is put into a tin canister with some small holes in it, which is hung over a funnel connected with the spout; and a piece of spring iron, attached to the canister, is struck by the spokes of one of the wheels successively as the wheel turns round, in order to shake out the feed. In the first construction, the feed is sometimes apt to be bruised betwixt the iron axle and the brass nut, and to clog up the dimples; the last construction is more sure in sowing, and is getting most into use. A very simple *drilling sower*, for sowing larger feeds under furrow, is described in No. VI. of the Farmer's Magazine; it is fixed to a foremost plough, dropping the feed into the furrow made by it; two other ploughs follow after; so that every third furrow is sown. This *drill-sower* has been thus

thus satisfactorily used, this Spring, by Captain M^cKay of Scotton, and Mr Loch of Rachan, in sowing peas.

Rollers are used of solid stone, or of solid wood, generally beech or plane: Some gentlemen have had them of a hollow cylinder of cast-iron: They are sometimes in two pieces, upon a common axle, to prevent heaping of the earth in turning. *Harrowes*, in ordinary use, are the common ones mentioned in the report of Mid-Lothian. *Break-harrowes* are used, with teeth of square iron, the corner of the iron going foremost. Flat coulter teeth, drawn edge foremost, have been used; but they do not seem to be considered as of the best construction, as, when the harrow is driven from its direction, by obstructions, (so often occurring in the land to which it is applied), the flat side of the teeth coming to be opposed to the draught, creates a resistance almost insuperable:

One-horse coup carts are almost universally in use. The common calculation is, that double-horse carts carry a load in proportion to that of one-horse carts, only as three to two. As it takes but one driver to manage two one-horse carts, it is evident that, with these, he could carry a load *as four*, while, with two horses in a double-horse cart, he could only carry a load *as three*: not to mention the additional ease to the horses, which must be both well broke and skilfully drove, when acting in concert in the double-horse cart, in order that they may share equal fatigue:

The straw-cutter, consisting of an iron wheel, turned round by a handle, which is provided with steel knives screwed into its periphery, and with rollers which feed in the straw to be subjected to the operation of the knives, whose motion is also produced by the same handle, has been recently introduced from England by Sir George Montgomery; as also, a very simple machine for cutting Swedish turnips for horses.

Fanners, a winnowing machine, said to be an invention of Papin a Dutchman, are universally used through Scotland; it is believed to be but of late, if this machine is, as yet, so universal in England. No farmer in Tweeddale, renting to the extent of 20l., or even less, is unprovided of fanners. The

machine, even under the late dearth of wood, costs not above 2l. 10s. Its principle is, the whirling round, with great velocity, four flat boards or vanes fixed to an axis within a wooden frame, by means of a handle and multiplying wheels. The current of air thus generated, is confined by the frame, which covers the vanes all round, with an exception of an opening for admitting air, and directs the current to the further end of the frame, which is open. Meanwhile, from a hopper fixed upon the top of the frame with a loose bottom, (which is agitated by the motion of the machine), the grain falls down through the frame, before the current of air; the chaff is blown out at the further end of the frame; the lighter grain goes over a partition into a receptacle; and the heavy grain, which the wind cannot force over the partition, falls nearly perpendicular into the bottom of the frame, whence it is discharged by an aperture for the purpose. Before the introduction of this most useful machine, much time was lost at the barn, and at the mill, in waiting for the natural wind, to separate the chaff from the corns, or the husks from the stripped kernel. Every barn was provided with two doors, opposite to each other, to admit the wind, which, in these latitudes, is most generally from the west; and custom has continued this fashion of construction, though its reason has ceased. The English practice of cleaning grain, by tossing it from a shovel, the heaviest flying farthest, and the chaff and lighter grain falling at a nearer distance, seems not to have been adverted to. By every corn-mill, a knoll top, on which the kernels were winnowed from the husks, was designed the *sheeling-bill*.

When fanners were first introduced, upwards of 40 years ago, it is said that some of the dissenting clergy lifted up their testimony against such profane innovation; as marking a mistrust in Providence, in thus sending for a wind of our own, and not waiting for a commissioned wind. It must be confessed, that a similar religious prejudice has, in this country, been opposed to the practice of inoculation for the small-pox: It has not militated against the cow-pox; because that pox is not look-
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ed upon as a disease, and the insertion of it is, in course, considered as an indifferent act.

The number of fanners in Tweeddale is nearly 350; they are now an appendage of all the thrashing-machines.

Thrashing-Mills.—The number of these, as already observed, have greatly increased, amounting at present to 18 going by water, and 24 driven by two horses each. Though the arrangement of machinery can render the smallest power equal to the overcoming of the greatest resistance, by multiplying proportionally the velocity of the agent's motion, over that to be ultimately communicated to the patient; yet, where a given resistance is to be overcome, and a given velocity is at same time to be preserved, no such aid can be derived from mechanical contrivance; but a strong acting force is indispensably necessary. Such is the case in the thrashing-mill; in regard to which, the moving power can probably admit of little aid from contrivance, excepting merely what may be given it by the diminution of friction. The only other contrivance I have ever yet heard of, which promises to give aid to the moving force, is one mentioned in the *Addenda* to Dr Douglas's Report of the Counties of Roxburgh and Selkirkshires, page 369; and that is, the placing of the switchers, or beaters, upon the drum, in a line, crossing, at a small angle, that of the drum's axis, instead of being placed parallel to it, as has hitherto been their position. This will certainly diminish the resistance of the straw to the stroke of the switcher; inasmuch, as the switcher, instead of striking, *at once*, the whole straw presented to it over the switching-stock by the rollers, will strike it all *in succession*; and will thus meet with a comparatively small resistance, from the small portion of the straw struck at once, in each instant of this succession: The advantage will be the same as that of *drawing a stroke*, in cutting with a sabre, or in shaving with a razor. If the same number of switchers are applied to the drum as in the present construction, but placed aslant, so as to occupy, each, the precise place of the diagonal drawn betwixt the opposite ends of two switchers, lying parallel to the axis of the drum, as in the present construction; it is evident, that the above stated advantage

advantage would be perfectly gained: And, at same time, as there would be no intermission between the strokes of the switchers (the stroke of the following switcher commencing at one end of the drum, in the very instant that the stroke of its predecessor had finished off at the other end); it is also evident, that the motion of the machine would be perfectly equable and continuous, without intermission or shake. One objection I have heard stated to this construction is, that the slanting switchers would have a tendency to propel the straw before them to the farther end of the rollers, and to create additional resistance, by collecting it *there* into greater thickness: An objection which, seemingly, might be removed, by forming notches in the projecting bars of the fluted rollers; the notches in the one bar being always placed opposite to the unnotched part of the one next to it. After all, the equability of the motion may, probably, be considered as a matter of taste, more than of real use; otherwise, the diminution of the velocity of the stroke, by its gradual slanting application, would (from the proportional diminution of the resistance) admit of the redress of greater multiplication, from the construction of the multiplying wheels—so as to attain to nearly equal velocity in the beat, from the same moving force: whilst, at same time, the equability of motion might be preserved.

Intelligent practical mechanics are the best judges of these matters. Nor would I have presumed to state the above suggestions, had not the improvement been stated, in the Report alluded to, as the invention of a practical mechanic.

The speedy diffusion of such an expensive machine, in such a poor county as Tweeddale, to the difference of from thirteen to forty-four in the space of three years, may be justly held as a decisive proof of the great utility of the invention. The extent of yield of grain, from this mode of thrashing, above what is procured from thrashing by flails, I have understood, from those well acquainted with the subject, to amount to the odds of one in twenty; and that the wages of the labourers required to assist, when the machine is at work, amount to no more than what would have been necessary to merely winnow by the fanners

fanners the quantity of grain made entirely fit for market by this operation of the machine; and that, upon a farm of any considerable extent, the amount of this saving of hand-labour would readily repay the whole of the capital sunk upon the machine, in the space of three years.

The thrashing-machine is probably the most useful invention ever introduced into the mechanical part of farming, next to that of ploughing with two horses without a driver: And the profit, like that of every other invention by which increase of product, and diminution of expence is procured, must ultimately tend to the increase of the value of lands. I am sorry to be informed, that the ingenious inventor, Mr Andrew Meikle, has not been able to derive such advantage from his invention, as is in any way adequate to his remuneration; being, like most great mechanics, so absorbed in his favourite contemplations, as to be incapable of paying that attention to his interest which might enable him to turn his talents to his own advantage.

Time was, when inventions for facilitating labour, through mechanical contrivance, were looked upon, by labourers, with an evil eye; as tending to deprive them of employment and of bread: Political reasoners have also declaimed against them, as tending to diminish population. These prejudices seem to have nearly vanished; it being universally understood, that such inventions can never come to be generally adopted, but in proportion as they are found to enrich their employers, in saving the outlay of capital, or in rendering the outlay more productive: But capital, saved or augmented by the addition of product, can yield no revenue to its proprietor, till it is consumed, in form of wages, by productive labourers—like, as straw cannot be converted into dung, till it has passed through the bellies of the cattle.

 CHAP. VI.

 ENCLOSING.

IN hearing of the measure, agitated in England, of a bill for general enclosure, it surprisef a Scotsman, when he is informed that the bill is intended for the purpose of dividing into separate distinct properties, the lands held at present in conjunct property and possession : He is led, neither by the laws nor the practice of his country, to consider the enclosure of commonlands, as inseparably connected with their division : He is therefore disposed to interpret *enclosure* in a metaphorical sense, as implying the mere ideal enclosure of the divided lands within the comprehension of separate property. If in Scotland, as in England, *actual enclosing* were necessarily to follow upon division ; this incurred obligation to enclose, would have proved, in general, an absolute bar to all application for division ; as, in most of cases, the fee-simple of the commonities to be divided, would not have sufficed for the expence of separate enclosure.

There are, in Scotland, general laws relative to division, *solely* ; by which, upon application to the Court of Session, from any of the parties having interest, a division, according to respective interest in the subject, proceeds, after a manner both simple and unexpensive. But no obligation to enclose results from the act of division : there are separate laws for enclosure ; and to these, recourse may be had, when the interest of those concerned shall suggest to them the propriety of such a measure.

The Scots statute for division of commonities, is of the date of 1695 ; and for enclosure of separate properties, the statutes, enforcing

enforcing straightening of marches, and mutual expence of march-dikes, are of the earlier dates of 1661, 1669, 1685, 1686. As the Union of the two Crowns, and consequent intercourse between the two nations, has subsisted of so much longer date than the earliest of these statutes, it is surprising, that the one nation should have borrowed so little from the institutions of the other.

Almost all common-lands in Scotland have been divided; and, in few years, the possession of land in common property, will be a species of tenure unknown. I know of none so held in Tweeddale; with the exception of a small piece of muir-ground in the parish of Eddlestone; as also of some few acres of village green, never ploughed, lying around some of the villages, and the town of Peebles; upon which the house-fed cows and horses are turned out for airing, and the children enjoy their out-of-door sports, and washed clothes are dried, &c. &c.—*Ceteris paribus*, a village green is a strong determining circumstance of preference in choosing a site for a boarding-school.

But, though commonities may be divided, and every species of conjunct property in land (such as servitudes of pasture) may be separated, upon setting apart an equivalent in land for the value of that sort of possession of it which is given up; the law of Scotland has recognized no necessary connexion betwixt division and enclosure*. The parties dividing, may enclose,

* The *droit de parcour*, or right of common hirfelling of cattle, to pasture in common at certain seasons, (a right complained of under the old *regime* of France, as totally inconsistent with every proposal of improvement of breeds), is unknown almost in Tweeddale, and will soon be totally abolished over Scotland. Winter herding has been enforced by laws of the same date as those referred to in the text. The proprietors of hill land pasturages would appear to have often obtained, through mere sufferance and custom; the right of Winter downfall for their sheep, upon low lying contiguous arable lands, belonging to other proprietors; a custom which easily crept in, when there were no Winter crops of grass, turnip, &c. upon the low lands, worth preserving.

In a case of this kind, at the village of Linton, where the right of Winter downfall was interpreted, in practice, as inferring 'that there was no obligation upon

close, if they will; but are not necessitated to enclose, as an implication from the division.

Whatever may be the case in more fertile counties in Scotland, a clause, rendering inclosure a necessary consequence of division, would, in many instances, prove an effectual bar against any application for division.

Where enclosure is wanted, it is provided for, by special act for that purpose, that the conterminous proprietor shall bear one half of the expence of the march-dike, presumed to be mutually beneficial: And this aid may be obtained by application to the Sheriff of the county, who is also authorised to straight marches. Upon such application, these advantages of mutual aid are invariably obtained; excepting in some specified instances, where the other party is conceived not to have equal, or equally permanent, interest in the enclosing, and where the enforcing of this privilege would be a hardship; unless that other party, *ipso facto*, shews that it is no hardship, by taking advantage of the march-dike in making enclosures of his own—*when*, though not originally bound, he binds himself by his own deed, and is liable to action of recovery.

It

Upon the proprietor of the dominant tenement, to herd his sheep from any Winter crop upon the servient one; and where (from extension of the analogy of pasturing upon the grass of the stubbles) it was also inferred, that the dominant proprietor had a right to *all the grass* growing upon the servient tenement, even in Summer; the proprietor of the servient tenement brought an action before the Court of Session, for a *declarator* of the extent of this right of servitude; which, after such interpretation, condemned his land to a comparative sterility, by excluding every attempt at the improved husbandry. The Court found, that the dominant proprietor could not (through mere toleration of the other party of a practice whilst it did him no damage) establish a right destructible of all farther improvement of the other's subject; they found the dominant proprietor obliged to herd his cattle from all Winter crops upon the servient's lands; also, from all sown grass, for two years, both in Winter and Summer: So that, for a rotation of four or five shifts, to which it is applied by the villagers who rent it, the lands are as effectually protected by this decision, as if they were completely enclosed by a fence.—Such is the favour shown to improvement by the Scots law and its interpreters.—The case is that of *Chatto v. Lockhart*, decided about twelve or fourteen years ago.

It might, indeed, probably, be a disputeable point, how far a permanent proprietor, from such advantage being taken of his march-dike, might be entitled to compel a mere liferenter to pay half its expence; to which he could not otherwise be compelled.

In the case of a liferenter enclosing, it might also be disputeable, how far he could compel a conterminous perpetual proprietor to bear half expence of march-fences. It may be refused on the one hand, upon the maxim, for most part just, that there can be no obligation where it is not mutual: It may be contended, on the other hand, that the law, imposing half expence upon a conterminous perpetual proprietor, has respect merely to his permanent interest as such; and that, his interest being ever the same, it should make no difference, in the eye of law, whether he is called upon by one having a perpetual, or merely a transient interest; particularly, in point of utility, in the case of unalienable corporation lands, whose situation, in respect to his lands, cannot alter, and which could not therefore, otherwise, have ever a chance of being enclosed.

The penalties decerned by law for trespass upon inclosed lands, are perhaps more severe than necessary in certain cases: their over-proportioned severity prevents their so frequent execution, whilst their effect *in terrorem* may be the more powerful.

The only enclosures to be depended upon, for confining our Tweeddale breed of sheep for fattening, (particularly, when it is also necessary to exclude those which are upon coarser fare and shorter allowance on the outside), are stone-dikes. The stone enclosures generally used in this county, for that purpose, are what are called *Galloway dikes*. They are of dry stone, built firm, smooth, and solid, till about $3\frac{1}{2}$ feet from the ground, when large projecting stones are laid across, upon which a conical cope is erected, composed of stones, laid with such interstices as can be seen through; but, at same time, closely locked together: the whole height of the dike is generally five feet: the cope, from its tumbling appearance, intimidates every species of animal; whilst, from its loose

contexture, it can be executed at less expence of materials. These dikes are built at all prices, (according to the ease or difficulty of procuring stones, or, *as they are built at the expence of an easy proprietor, or of an intelligent and sharp farmer*), from, perhaps, four shillings to ten shillings per rood of six yards, building and materials both included.

In separating hill sheep-walks of stock sheep from the arable part of such sheep farms, fences of the above description are the only ones which promise to give the smallest satisfaction. In effecting this purpose, it must be considered, that a great variety of soils must be encountered; and that, though thorn hedges may be reared upon old croft soil, or what naturally has the appearance of loam, or upon rich clay soil; yet they cannot be raised upon sand soil, moss soil, moorish, or hazel: the probability is, therefore, that in very few places will the hedge ever grow to the strength of a fence; and there is also a certainty, that, let the hedge grow so as to prove a fence against any other species of cattle, it will never prove a fence against a Tweeddale sheep; when tempted by a strong incitement to break through it, they will contrive to wriggle their bodies through any interstice that gives admission to their heads; and as, in such efforts, the wool is torn from the sheep, so the sheep obtains ample revenge upon the hedge, as its wool will infallibly canker and destroy the best grown hedges. Instead of *helps-meet*, hedges and Tweeddale sheep are mutual *plagues and curses*; they are considered by Tweeddale sheep farmers as mere vexatious baubles: and certainly more money has been unprofitably thrown away, in this county, in attempting to make fences of thorn hedge, than upon any other abortive attempt at improvement. The sheep farmers upon Neidpath, enclosing at their own expence, have universally had recourse to Galloway stone dikes, in cutting off their arable land from the sheep hill pasture; and even for the subdivisions of the arable land, so cut off, these dikes are almost universally employed; although, in many instances, the soil may have been perfectly fit to carry thorns to their full growth. Such men will certainly be held adequate judges of the most profitable

profitable outlay of their own money; and their practice I should be inclined to hold as decisive of the general expediency.

Live hedges are unquestionably a much more beautiful fence than a dead stone wall; they also afford more shelter; the ditch also, upon the face of which they are planted, acts as a drain: As, however, they are utterly inadmissible as fences, where Tweeddale sheep are concerned, these advantages must be obtained by other means. Trees, in a few years, rise above the reach of sheep; and, probably, the most satisfactory mode of obtaining both shelter, beauty, and draining, in the enclosures on sheep farms, would be, to drive ditches parallel to the stone fences, at such distance as to admit a stripe of planting; the side of the ditch next the planting to be faced up with the sod raised in forming the ditch, and what is taken out of the ditch (vernacularly the *deeds*) thrown behind this facing, to support it; the top of this facing to be defended by pegs, or paling, without which, no earth fence is in any degree a fence against Tweeddale sheep: Such a fence, with a few repairs, might protect the trees till above reach of the sheep.

It may be noticed, as a proper piece of œconomy practised by the Neidpath farmers, in their enterprizes of enclosing, that they never enclose till the field is, by culture, brought into a state worth enclosing, so as to yield immediate interest for the enclosing money. They therefore enclose in that season when the field is in preparatory fallow; by which means, the stones removed from the field assist in building the dikes, saving both materials and carriage; and the enclosure is of profitable advantage the very first year of its erection.

In situations where stones are at a very great distance, it might probably be ineligible to attempt at all the enclosure of the arable part of sheep farms. Perhaps, in such situations, beech hedges might be more feasilily attempted, than those of thorn, from a few indications in Tweeddale of the hardiness of that plant. The larch, to judge from their appearance, in our wood plantations, seems remarkable for thriving, better than any other tree, in
poor

poor soils and exposed situations. Some trials are just now making, of applying them to enclosure. They are planted upon a border, in two rows, at eighteen inches distance betwixt the rows, and the same distance betwixt plant and plant; the plants of the one row placed opposite to the intervals betwixt the plants in the other row. A double ditch, with the bank betwixt the ditches sown with furze (*whins*), might probably answer, in some degree, for the purpose of a fence. As to the objection of the shedding of the seed, this might be obviated, by constant application of the sciffars, a clipt whin having probably no more tendency to produce seed, than a clipt hawthorn; the thick matting of small lateral twigs, produced from clipping, also protecting the roots from the action of severe frosts*. I know of no plant sufficiently aquatic, to promise to become a fence in undrained mofs. Probably mofs must be kept in a middle state, betwixt wet and dry, in order to raise any vegetable production. When laid up in a bank, with double ditch and hedge, thorns will thrive for an year or two, so long as the bank retains moisture; but when the bank becomes dry, (and it will become so dry, that, in Summer's drought, it would burn down to the water's edge, almost, in the ditches), the thorns decay and soon die. Of this, we have had some experience in this county.

In the small arable dairy farms, thorn hedges are more admissible as a fence; because they are protected from the wild sheep of the hills, by the interposition, generally, of the arable part of the sheep farms betwixt them and the sheep; and the tamer animals of the dairy are by no means so impatient of restraint. Considering the variety of soil which must be gone through, (a circumstance not easily avoidable in conducting a
thorn

* In the severe Winter of 1779-80, when the violence of the frost destroyed most of the whins, I perfectly recollect, that the whin bushes upon the north end of the Pentland Hills near Edinburgh, which survived the frost, were the low matted bushes which had been cropped over, both sides and top, by the sheep. The sheep may thus instruct us in the proper management of the whin, as the ass did the ancients in the management of the vine.

thorn hedge enclosure), the probability of its never becoming fencible in many parts of its course, together with the continued care and attention of probably six or seven years, before a thorn hedge will become in any degree a fence, even in our best soils, it is not surprising that the Tweeddale tenantry, in general, manifest that reluctance they do against becoming bound to protect, and rear, and leave them fencible, upon a lease of nineteen years. There is good reason to conclude, that the thorn fences which have thriven best in Tweeddale, are those which the resident proprietor has taken entirely under his own protection, even while the lands were under lease, without entrusting them to any obligation imposed upon the tenant.

The enclosing of the *arable part* of sheep farms, in order to render sheep and arable farming mutually subservient, is the chief improvement of which this county is susceptible. In regard to the expediency of enclosing the *hill pasture* of sheep farms, the following is the result of information or reflection.

A mere ring fence around the boundary of an extensive sheep farm, could not save the smallest expence of herding* ; not even although only one kind of sheep (hogs for instance) are kept upon it, and where, of course, the whole flock go together in one body (or *hirsel*): Because, even under this most simple mode of occupation, the grafs of the low parts of the farm must, at one season, be saved (*hained*), for provision for the Winter months, after all springing of grafs has ceased: As also, because, through the Spring, Summer, and Autumn, the sheep must, at different periods, be kept more to one division of the grounds than another ; in order that all the varieties of grafses, springing at their different seasons, in all varieties of soil, and of elevation, may be all consumed in their proper seasons, so that the full benefit of the whole may be reaped. Far less could a mere ring fence supersede any necessity of herding, in an extensive breeding farm, where various kinds of sheep are kept, assorted into different flocks or *hirsels*, according to their

* I speak not here of a mere park, in which ewes and lambs, or widders, are fattened through Summer, and none, or very few, kept in Winter.

their kinds. Were even a distinct enclosure formed for each distinct hirsel, (against which there would, too, be often unfurmountable objections), this would serve no purpose, for the reasons just stated; unless there were also subdividing enclosures, comprehending each distinct species of pasture; as the sheep would often rather linger upon the sweetest pasture, however bare, than betake themselves (without the compulsion of herding) to less palatable, though more abundant food. It would be giving too much credit to their instinctive discretion, to suppose them capable of the self-denial of making any reservation of Summer's food for their Winter's provision.

From all this, it appears that a scheme of such complete enclosure of sheep farms, as would supersede herding, even supposing the scheme of subdivision in itself otherwise unobjectionable (which is a problematical supposition), would require such multiplied expence, as the advantage gained could never repay.

A pasture enclosure, to serve occasionally as an hospital, and to confine the rams till the proper season of admission, would, however, be advantageous in every sheep farm.

It appears improbable, that a demand for the enclosure of the mountains of Tweeddale, shall ever arise for any other purpose than its subserviency to sheep. Were we, indeed, to suppose the population of Scotland to arrive to the same extent as is attributed to China, by the most exaggerated accounts, (a supposition not absolutely impossible, bating accidents of war, famine, pestilence, inundation, sansculottes massacre, or the final dissolution of the mundane system); it may so happen, that the demand for even the meanest productions, that can in any way tend to the support of human life, may lead the hand of industry, with propriety, to extend itself to the minute surface culture of the highest Tweeddale mountain; were it even merely to meliorate the quality, or augment the quantity of produce of crow-crops and bilberries. Till such an æra arrive, it would be absurd, in point of private interest, and ruinous as to that of the public, to kick against the pricks, in throwing away stock upon cultivation so little productive; while there remain

remain so many subjects of cultivation, capable of yielding such returns of profit, as might speedily accumulate into new capitals. The enclosure of the arable farms, and of the arable part of sheep farms, may give profitable occupation to the whole agricultural capital that shall arise in Tweeddale, for more than half a century to come.

Gates.—*Larix*, from its toughness and incorruptibility, requiring less weight of wood, and, consequently, admitting of diminution of expence in the supporting gate-posts of masonry, has been lately used by John Lock, Esq. of Rachan, in gates, for sheep enclosures, of exceeding light construction,

CHAP. VII.

ARABLE LANDS.

SECT. I.—*Tillage.*

THE two-horse plough, directed entirely by the ploughman, without a driver, was introduced, about thirty years ago, into this county, and the practice has become universal in all lands of easy tillage. Very strong land, or coarse land newly broken up from its natural state (of, perhaps, heath, furze, bent, or rushes), are tilled by four horses, or four oxen, or by two horses and two oxen, and with a strong Scots plough. Mofs soil, when deep, is generally tilled by oxen alone. The cattle are universally yoked two a-breast.

In some instances of steep declivity, a furrow slice is turned over by the horses going down hill, the plough returning empty to the top of the ascent.

SECT. II.—*Fallowing.*

COARSE land, broken up from a state of nature, is sometimes left unfirred for twelve months, to allow the sod to rot, and is fallowed with bare fallow, and limed the ensuing season. Mofs soil, when fallow comes round in the course of cropping, is not unfrequently fallowed with bare fallow, to allow opportunity of frequent and deep ploughings, in order to make the mofs subside and consolidate, and to incorporate it thoroughly (for that purpose) with the dung and lime laid upon it, and with such of the subsoil as can be reached and raised by the plough. Deep clays (of which there is little in the county), unfit for turnip or potato crops, may also be fallowed bare.

All

All land, fit for these crops just mentioned, are fallowed with them, as green crop in drills. Land of this description, intended for fallow, is ploughed from the stubble as soon after harvest as possible: If foul, it is clean ploughed, that all the roots of the weeds may be loosened: If it is clean, the very old Scots practice of *ribing*, is now beginning to be revived; that is, the furrow raised by the plough is turned over upon an equal superficies of land, left firm—a practice seemingly worth attention, as, by this mean, a surface is exposed to the action of the frost, greater than that presented by clean ploughing, in nearly the proportion of three sides of a cube, to two sides of a triangle, of equal altitude, and upon the same base. It seems to be a good maxim in tillage, to plough rather shallow for all the successive crops that ensue after manuring, in order to keep the manure near the surface; and to plough deep, in Harvest, the land to be fallowed the ensuing Summer, that new soil may be exposed to the Winter's frost.

SECT. III.—*Rotation of Crops.*

AFTER what hath been said upon this subject (p. 70, 71, 85), it may be sufficient here to observe, in general, That the admission, or non-admission, of pasture into the system of rotation (where the whole farm is under regular rotation of culture), must depend upon the means of procuring dung—whether it must be made by cattle kept upon the farm, or whether it can be otherwise procured, without necessity of keeping cattle for the purpose.

Near a great town, such as Edinburgh, there is always such high demand for pasture for milk cows and horses, that no mode of culture (except the raising of garden stuffs or nursery) can compete with pasture in point of profit. At a little greater distance, a large quantity of land may be kept under constant crop, without intervention of pasture in the rotation; the dung procurable from the town superseding the necessity of keeping cattle to produce dung: In such situations, there may be no necessity for keeping any cattle, except labouring horses, and cows,

for the mere supply of the farmer's family; these may be maintained, through Summer, on green house feeding; and no pasture may be needed, but some small patch for mere airing for health to the cattle. At such distance as precludes the purchase of dung from a great town, cattle must be kept, in order to create it. If there is hill land, fitter for pasture than aration, *that* may be either pastured in its natural state, or may be improved and laid down in permanent pasture; and the low land may be kept under constant rotation culture, without necessity of the intervention of pasturage. If the land is all equally fit for aration, it would be, probably, most adviseable to cultivate regularly the whole, admitting pasture into the system of rotation; as this is probably the best mode of preventing the land from *tiring* of those crops to which it hath been too long familiarized*. In a farm of this latter description, supposing it divided into equal breaks, it might be a curious question, to ascertain how many of these breaks it would be necessary to have at once in pasture, in order to support sufficiency of cattle (supposing they could not be got elsewhere) to yield dung sufficient to keep the rest under crop? or whether, if cattle can always be got to purchase from mere pasturing counties, the cattle bought at harvest, sufficient to consume through Winter the straw and turnip produced upon the farm, would yield sufficiency of dung to keep the whole farm under constant cropping, without the intervention of pasture?

From very limited, and not very accurately observed experience, I have been led to imagine, that a cow of about 25 stone Dutch in weight, though even housed nightly in Summer, and fed also in the house in mid-day Summer heats, will not produce above 12 or 14 single-horse carts of dung annually; and a plough-horse, much of whose dung is necessarily lost at work, about the same quantity. Now, 50 or 60 such cart loads

* In Norfolk, where the cultivation of clover has been of such long standing, we hear of fields so *tired* of clover, that they will not now produce it. About, perhaps, 30 years ago, Messrs Stodhart and Prentice, in the parish of Peccymain, in Clydesdale, introduced the culture of potatoes upon a large scale: Their common return was then 80 bolls, per acre—it does not now exceed 40.

loads are but a moderate dunging for one acre under green fallow crop: four such animals would, therefore, dung one acre annually; or four would keep four acres agoing under a rotation of four, needing one acre only dunged each season. This statement pretends not to any thing like accuracy; but such seem to be the nature of the *data* upon which such calculations should proceed.

Sir George Staunton informs us, that through the whole route of the embassy to China, along its east side, by the Yellow Sea, to Pekin; and thence to Canton, through the greatest length of the empire in the interior; the whole country, so far as the eye could reach, was found under crop, without the least intermixture of pasture; and that animals seemed rarely used, even for the purposes of tilling or carriages. It is a curious question, how the lands were kept in heart, without animals to yield dung: for the crops were observed to be universally luxuriant. Sir George, from information and conjecture, suggests irrigation, mixture of the soils of different fields, and human excrement, as the means of manure. What becomes of the straw of their crops? Is it chopped, or otherwise comminuted, and mixed with meals or roots, to pass, in this shape, through the bellies of the lower orders? or are they littered with it? An agricultural survey of China would form a most interesting work. They surely excel the Europeans in practical agriculture, as much as they are inferior in most other things.

SECT. IV.—*Crops commonly cultivated.*

THE crops falling under this description, are; *first*, the meliorating green crops of turnip, potato, peas, artificial grasses; *second*, the exhausting white crops of oats, bigg, barley.

Turnip and potato are chiefly used as the green-fallow crop. The land allotted for fallow, which is generally ploughed immediately after harvest, is, after repeated ploughings and harrowings in Spring, laid into ridges, the crowns of which are at the distance of from two and an half to three feet of distance
from

from each other; dung is then emptied from carts into every third furrow, in small heaps (or *hutches*), five or six of such hutches being contained in a single-horse cart; the dung is then spread by a three-pronged fork (or *grape*) from the hutch, along the furrow in which the hutch lies, and the furrow on either side.

For *turnip*, the ridges are immediately split by the plough, which reverses the position of the furrows and ridges, covering up the dung in the furrows, and making the ridge occupy the former place of the furrow. The seed is immediately sown upon the fresh mould by turnip barrows, formerly described. The seed is not raised in the county, but purchased in the shops. The turnip are white, red, or green, topt. The red probably grows to the largest size, but the green seem more hardy; whence the propriety of part of each; the first for a bulky crop to be first consumed, the other for food later in the season*. From two to three pounds weight of seed are sown upon a Scots acre; the abundance of plants being reckoned the best security against the devastations of the snail or fly. The first culture they receive, is to thin the plants in the row, by hand-hoes; and the sooner this operation is performed, so much the better; the weeds are then often hatched down, in the intervals betwixt the rows of plants, by the hand-hoe; the sides of the ridges are then pared by a paring-plough drawn by one horse, and the earth afterwards set up to the plants by a double mould-boarded plough. A great part of this culture, while growing, has of late been much simplified by Mr James McDougal in Linton. Immediately after the plants are singled in the row (which

* The frequent loss of turnip crop from severity of Winters, is introducing fast the practice of pulling all the turnips about Martimas, laying them up in long narrow ridges, and covering them (as they are to be consumed sooner or later) with merely their own shaws, or with a slight covering of turf: so preserved, they are found to feed well through the whole of April—which will render the hardiness of kinds of less consequence. Turnip may thus be raised even on stiff soils, as they may be taken off before the Winter rains, without injury to the land. The shaws and roots are both cut off when the turnips are pulled.

(which he is careful to have executed before the weeds in the intervals of the ridges have come to any size), he pares *one side* of all the ridges, taking care so to temper his plough that the furrow thrown from it overlaps, and whelms up all the weeds in the interval, and is laid close to the plants upon the right-hand ridge; after an interval sufficient to rot the buried weeds, he pares the *other side* of all the ridges, laying the furrow as before; and this operation he repeats so long as the plants will admit of the passage of the plough without injury; nor does he set up the earth to them at all. It is evident, that, under this mode of management, the plough, in paring, can be carried much nearer to the plants; as, on one side of them, the earth is firm; as also, that the plants are much less exposed to drought, than when they stand with the earth pared from both their sides at once. In the sheep farms, the turnip is applied to the feeding of cast-off breeding ewes; in arable farms, to the milk cows, or rearing stock, or feeding off-cast cows, or sometimes bullocks. The *Ruta бага*, or Swedish turnip, is coming into repute, as the surest Spring food: its cultivation is the same as that of the common turnip; only they are sown in the beginning of May, while the common are sown in the latter end of May, or before the middle of June. They promise to supply the great *desideratum* of succulent Winter food to last till the grass season. Last Spring my own crop of them, pulled early in Winter, topped and tailed, and laid up in a ridge upon the surface of the ground, and thatched with rushes, served as food to milk cows till the 14th day of June; very few of them being damaged by keeping.

For *potato*, the land is prepared and dunged as for turnip. The potato sets are then laid upon the dung, and the ridges are split by the plough to cover the potato; or, sometimes, the field is just harrowed across for this purpose. A late practice is, to cover them with a garden-rake; then to cover them further by a slight plough, paring off *one side* of all the ridges; then, after some time, by another paring off the *other side* of all the ridges; with the intention of thus covering them slightly with loose earth, so as not to exclude so totally the influence

fluence of the air, sun, and dew, as is apprehended to be done by splitting the ridges at once, and thus covering the potato deep by two furrows compressed against each other by the action of the plough †. If the horse is made to walk upon the top of the ridge in covering the potatoes, this prevents the earth from being compressed upon them by the trampling of the horse. Just before the plants appear above ground, the land is generally harrowed: when they distinctly appear, a furrow slice is taken from both sides of the row of plants by the plough, and the plants are cleared of weeds by the hand-hoe; and, as soon as possible thereafter, the earth is laid up by the double mouldboarded plough to the plants, and then drawn close to their stems by hand-hoes*. The time of planting potatoes, is as early as may be in the month of April: on this account the fallow given with potatoes is more imperfect than that with turnip, there being less time for preparatory cleaning before the insertion of the crop. The seed apparently most in request, from being most prolific, is the *Apple* or *Jonadab* potato; it is a round-shaped potato with light purple clouds upon a white ground; it is very lately introduced, I do not know whence; and perhaps its superior prolific quality depends merely upon the principle which causes every change of seed to be an improvement: When beat, after boiling, it is said to produce more meal from the same measure than any potato hitherto known. *Yams* are sometimes planted for cows and horses; it seems a late plant, and probably is therefore less nutritious than the common potato, which we can ripen to perfection. Hays are assuredly most nutritious when cut before the ripening of the plant: in this respect,

† By following this method, I had a crop, in the unfavourable season 1795, fully equal to that of the very favourable season 1794.

* It is of importance to be expeditious in the operations of the plough, lest the tendrils thrown out by the plant should be torn by its action: from not attending to this circumstance, I ruined a most promising crop in 1793. The ploughman, in the last operation of the plough, observed the bottom of the furrow sprinkled with torn tendrils, appearing as maggots.

respect, however, roots bear, more probably, an analogy to corns. I know not if this analogy holds in every respect; in that case, abundance of root, like length of ear, should depend upon strength of stem, which is promoted by late sowing; but superior ripening, accompanied with less strength of stem, and proportional diminution of bulk of root and of grain, should be promoted by early sowing; and each situation should strike the medium that best counterbalances the disadvantages to which it is most liable. *Early potatoes* are raised in gardens: it seems particular, that this plant should bear neither flowers nor seed. It is needless to descant upon the usefulness of potatoes, so universally acknowledged, as food for man and beast. As the curl is hardly known in Tweeddale, a good number of potatoes are annually disposed of for seed to the Lothians.

Peas are sometimes sown upon part of the break intended for green crop fallow: They are very seldom drilled; indeed the rapid growth of the plant will admit of very little horsehoeing. When the farmer cannot reach his whole fallow-break with turnip and potato, for want of dung; he sows peas upon the residue, without dung; and next season gives that part a little spring-fallowing with dung, in preparation of being sown out with bear and grass seeds along with the part that had carried turnip and potato; At next return of fallow, he takes care to turn that part, which had bore peas, into turnip and potato. Peas are most generally sown upon outfields, (as mentioned page .): They constitute a regular crop upon rotation land, where the rotation contains five or six shifts, (page .) In the higher parishes they are a very uncertain crop. They are sown in February, March, or April; and are frequently sown under furrow. Two kinds only are in use; the *Peebles* pea, of a grey colour, speckled with dark spots; and the *Magbiehill*, a still earlier kind, of much the same appearance, and growing less to straw: A still earlier kind was picked out by myself from a field of *Magbiehill* peas, by marking the earliest blossomed stalks, (the way in which Mr Montgomery of *Magbiehill*, father to Sir James Montgomery of Stanhope,

Stanhope, late Lord Chief Baron of the Court of Exchequer, is said to have discovered the Magbiehill). The experiment hath been still further prosecuted by Mr Aitken, proprietor of Callends in Newlands parish, who has discovered two kinds in these peas; one kind with straw of a purpleish cast, with naughty short pods; the other longer podded, with straw of a yellowish shade.

In proportion to the earliness of ripening, all our kinds are respectively less abundant in straw; but this deficiency is partly remediable by late sowing: In some of our soils and situations, there is no danger to be apprehended from deficiency of luxuriance in straw, however early the kind, or however early the sowing; there, this earliest kind of pea is advantageous: In different situations, where peas are used as an eke to the turnip and potato fallow crop, the adoption of this early kind might afford time for some preparatory spring-fallowing of the ground, previous to sowing.

Artificial Grasses. (See CHAP. VIII.)

Second, White crops in common use.

Oats, always sown after clover, upon rotation land under rotation of four shifts, and sometimes with grass feeds after green crop fallow; or in a rotation of six shifts, after peas; and the only grain cultivated upon outfields, bating sometimes the interposition of peas. Of this grain, we have three distinct species.

The *Blainstie*, or *Tweedside white*, is the latest, and is found to suit the lowest lying parishes better than any other.

The *Carnwath* is about ten days earlier than the last, and grows to straw, in thin poor soils, better than any other species. It is procured from the high lying moor farms in the parish of Carnwath in Clydesdale; the best from *Barbachlee*, in Whitburn parish. It is (proportionally to the bleakness of the situation and poverty of soil it grows in) a long, thin-bodied, ill-filled oat, with a baird or *awn*.

The *Magbiehill*, earlier, by eight or ten days, than the last. It was introduced, from Ayrshire, in the beginning of last century,

ry, by Mr Montgomery of Magbiehill, in Newlands parish, father to Sir James Montgomery of Stanhope; and has continued, without degeneracy, in the upper parishes of Tweeddale. It is more short and plump, on equal land, than the two preceding; and is hence known by the name also of *barley oat*, imposed upon it from its figure. It was introduced into Roxburghshire, by Mr Dawson of Frogden, about fifteen years since, and there obtained the name of *red oat*. It is easier shaked than the two preceding species; though, in fact, seldomer shaked, from being oftener cut down before the setting in of the equinoctial storms. It suits not the lower parishes, where, from sharpness of soils and drier climate, shortness of straw is apprehended. In the higher parishes, it is sown upon deep moss, or reclaimed clay morafs, where there would be danger of other species lodging; in dry land, it is never sown, but where the ground is in good heart, as upon clover lea, or after turnip and potato fallow.

Rough beer, or *big*, is reckoned the best grain to sow along with grass feeds in rotation lands; it is sometimes sown under furrow, though rarely.—*Blended beer*, that is, a mixture of *rough beer* and of *barley* (so common in Fifeshire), is not used in this county. The history of this practice is curious: It would seem, that, by the intermixture of the *farinæ* of these earlier and later ripening species, the whole field ripens at one time, probably in the intermediate period of the ripening of each of these grains. Captain MacKay of Scotstoun carefully picked out some of the barley from a field he had of *blended beer*; and this barley he finds more early than any other barley he has since procured for seed. Experiments ought to be made in regard to this subject; as, 1. Whether barley and *big*, when sown together for the first time, would ripen equally, as the *blended beer* does in Fifeshire; or whether it requires successive growing together, to accomplish this interchange of properties? 2. It might be worth ascertaining, by the experiment of separating the two grains, whether the peculiarity each had attained in growing blended together, would remain as a permanent distinction? Also, whether the *big* had

gained, in improvement of quality, from having obtained somewhat of the lateness of barley ; and whether the barley had degenerated somewhat to the inferiority of big, from having had imparted to it somewhat of its quality of more early ripening ?

SECT. V.—*Crops not commonly cultivated, or in small quantity, are, of green crops.*

Beans, sometimes tried in drills, but quite disused, from the impossibility of saving them in our wet harvests.

Tares, sometimes a few sown as green food for horses : The purpose, however, is more certainly secured by cutting part of the hay field very early, that the second crop may come in before the general springing of the aftermath of the hay field.

Cabbages, sometimes used as part of the green fallow crop.

Carrots must be sown so early, and must consequently be so much overtaken by weeds, before they appear through the ground, that little preparatory cleaning can be given to the land before sowing ; and the subsequent weeding must be a very tedious labour. For these reasons, as also from the difficulty of raising them in frost, they seem unfit for a general fallow green crop. If any, induced by the rhodomontade descriptions of their profit, to be found in books of agriculture, were to choose to risk them as a crop, it seems probable, that the securest method of rearing them, would be to sow them (as has been suggested to me by the venerable Countess-Dowager of Dundonald) upon land that had previously carried a crop of drilled turnip with dung ; preparing the land, by merely splitting the ridges, and sowing them on the top of the new ridge formed by this operation. At Mr Henderson's, in Kirkcud parish, I have eaten butter, in Winter, from the milk of cows fed upon carrots and hay, which, for richness of colour and of taste, seemed to come nothing short of that made upon grass in Summer.

Lint is sown, in inconsiderable quantity, and merely for family use, upon land previously fallowed, along with grass seeds ; or on clover lea. The Trustees premium (whether from the good sense of the farmers, or from some new measure as to
the

the locality of its distribution) seems not now to have the effect of making it be sown, as a gambling speculation*.

Of white crops, those not commonly cultivated, or not to any great extent, are,

Wheat, not cultivated, in the higher parishes, for want of climate; nor, in the lower, as too exhausting to the soil.

Rye used formerly to be sown on the outer ridge of corn-fields next to dwellings, to defend them from poultry, which would appear to dislike the grain. None is now sown, even for that purpose.

Potato crops may average between thirty and forty bolls per acre, (nineteen or twenty stone per boll, seventeen and a half pounds to the stone). Sixty bolls per acre is held a very great crop.

Turnips

* A bounty, or premium, seems useful to induce the trial of something new. If, upon sufficient trial, it is found profitable, it will force its own way. If it cannot stand upon its own legs, why tempt people to what is unprofitable, in setting them a-gambling for a prize? More than twenty years since, I was apprised of the following incident:—At a time when the Trustees for encouraging arts, manufactures, &c. held out a premium to encourage the growth of lintseed, the minister of Humby, in East Lothian, was in use to sow lint upon land in his farm, which was in fit condition to have carried wheat; finding that, from the premium of one shilling per peck allowed by the Trustees for seed, when adjudged fit for the purpose by their appointed judges, and from the 9d. per peck, the real price given for it at the oil mills, the only market where there was a demand for it, he could, upon the whole, make more from his crop of lintseed, than what he could obtain from a crop of wheat. As for the lint itself, it always was disposed of, unmanufactured, as thatch, to the villagers of Humby.

A patent for a new invention has this in it, preferable to the encouragement of a bounty or premium, that the public have nothing to tempt them to put in use the practice, but the profit found to result from it. Every thing has two handles. The prospect of obtaining the advantages of a patent, may give great encouragement to the genius of invention: But when it is considered that this reliance, after one invention hath been fallen upon, has a tendency to spite all farther efforts at invention in him who has thus shown himself possessed of a genius for it; perhaps the effect of patents may appear more ambiguous. Patents can never be applied to agricultural practice, which cannot, like those of manufacture, be proved in secret; they would tend only to encourage invention in the construction of new implements of husbandry.

Turnips may feed towards fourscore Tweeddale sheep per acre, from Martinmas till Newyear's day; or may feed a couple of bullocks, of thirty stones each, Dutch weight, for between three and four months, if the crop is tolerably good.

Big or Barley, sown always upon well-dressed land, may average eight bolls per acre over the county.

Oats, where sown as part of rotation, may produce nearly the same return as beer. Considering, however, the poor returns from such of the lands upon which this grain is sown, the average of return over the county may probably not exceed four, or four and a half bolls per acre.

Peas, as they are not sown in such quantity, upon poor soil, as oats, and are pretty much difused in the higher parishes, may probably average about six bolls per acre in their return.

The above state of returns is, however, mere vague conjecture.

CH A P. VIII.

G R A S S.

SECT. I.—*Natural Meadows and Pastures.* (See p. 85.)

ENGLISH meadow, or *dry land* in natural grass, which is constantly sowed for hay, receiving every second or third year a top-dressing of dung, is unknown in Tweeddale: Scottish farmers would consider such a mode of obtaining hay, as very unœconomical, and would expect to obtain it much more advantageously from land kept in rotation tillage. Scottish *meadow hay* is obtained only from *wet boggy land*; consisting (according to the nature of the soil, difference of degree of wet, or difference of exposure) of coarse sprot grass, or grasses of finer quality.

SECT. II.—*Artificial Grasses.*

THESE constitute the Scottish dependence for hay, entering into every improved system of rotation culture.

They are sown in Tweeddale, generally with barley or big, though sometimes with oats, upon land that had previously carried a green fallow crop. Where the land is dry, and of free mould, and well defended, less seed is necessary; because less of the seed and fewer of the plants perish, than where the soil is stiff, or inclined to wet, or open to the trampling of cattle in Winter. In the first case, about a bushel of English rye grass, with ten pounds weight of Dutch red clover, suffice for a Scottish acre; in the last, nearly a bushel and an half of the former, with

with fourteen or fifteen pounds of the latter, are requisite. When pasture constitutes part of the rotation, some pounds of white clover, and of rib grafs, are added; a part of the rye grafs, and of the red clover, being kept back*.

Hill pasture grafs receives little improvement, except the accidental one received from the refreshment of the tillage, instituted, with a view to corn, after lime or folding, as already specified in pointing out the treatment of the outfield arable land of sheep farms. This sort of tillage is beginning, however, to be modulated into a greater correspondence with the interest of the subsequent pasture. In outfields, of clay or moss soil, at 1000 feet elevation, wet from the continual moisture of the air, alternate oats and natural pasture are the only admissible modes of cultivation.

SECT. III.—*Hay Harvest.*

THE harvest of meadow hay commences at Lammas; sometimes interfering, towards its conclusion, with the commencement of corn harvest: That of hay, from sown grasses, about the middle of July.

In

* According to Captain Mackay's experience at Scotton, in Newlands parish, yellow or hop clover did not grow at all; neither when sown upon old croft land, of deep free soil; nor when sown on light free soil, to the extent of 8 lb. per acre, Yorkshire fog (sold under that name in Edinburgh feed shops, and seemingly a culmiferous grafs, that is natural to our best leas) produced, with him, upon the last mentioned soil, a tolerable crop of hay; but, for two or three years that the field was continued in pasture, every species of cattle seemed to nauseate the two or three experimenting ridges bearing Yorkshire fog; or, at least, so much to prefer the other grasses of the field, that these ridges had to be cut for hay, from among the feet of the pasturing cattle. He tried also, upon a field of the same sort of soil, in a small patch of the field, a species of clover called cow grafs (very similar in appearance to the red clover, with a dark green leaf, which grows spontaneously under our hedges); it yielded a very weighty first cutting of hay, seemingly very palatable to horses; the aftermath was inferior to that of the rest of the field, probably from the exhaustion of the roots in the weighty first growth. In subsequent pasture, all animals seemed fond of the cow grafs; and it remained an year or two longer in the ground, than the Dutch red clover.

In making hay from fown grafs, every precaution is taken to prevent the exhalation, or washing out of the juices, by the sun, air, or rains: It is therefore never, *now*, spread out (or *teaded*); but lies some time in the fwath, which is also turned whole; and, in this state of unbroken fwath, is found to shoot off the rain: It is then put up in large cocks, and thence into *tramped* ricks, (that is, ricks built by a person who stands upon the rick in building it); whence it is carried, at convenience, into the Winter stack, or fold to the consumer. It is saved with all that precaution against exhalation, or fermentation, which an apothecary uses in curing his medicinal herbs, to prevent waste or degeneracy.

In making meadow hay; from the more advanced period of the season, and more soft and succulent nature of the grafs, opposite maxims of management are adopted; and every advantage, of teading before the sun and wind, is taken, in order to procure as much dryness, as will make it keep in the Winter stack.

Heating the hay in the Winter stack, would be considered as a deterioration, except in regard to sprout hay, for the purpose of making it more easily chewed.

The aftermath of clover is sometimes stacked with dry straw for fodder.

Almost no farmer, *now*, cuts hay for two successive years from his field of fown grafs.

SECT. IV.—Feeding.

TURNIP is applied to feeding crock sheep, or to the milk cows of the dairy; a few bullocks are also fed upon them, besides the cast-offs of the dairy. Potatoes are very much given to horses. A small quantity of hay is always reserved in the arable dairy farms, for new-calved cows in Spring, though the greater part is sold. The provident sheep farmers sell no hay, till their sheep are ensured against Winter storms. Peas straw was the great feed of sheep in storms, till superseded by hay; it

it was always accounted our best fodder, for horses working hard in Spring; there is either a prejudice, or experience, against giving it to cows. Oat-straw is our next best straw fodder. Straw of big is dangerous for horses, exciting inflammation; though this tendency seems corrected by potatoes. It is given to milk cows eating turnip; though chaff of beer, steeped in boiling water, is the great dependence of cottagers, for their new-calved cows in Spring.

CHAP.

CHAP. IX.**GARDENS, ORCHARDS.**

THERE are three hot-houses in Tweeddale ; at Whim, Kirkurd, now Castlecraig, and Darnhall ; another is begun at Kingf-meadows, and another probably in contemplation at Kailzie. A botanic garden, with such exotics as could live in our climate, either in the green-house or open air, was kept up by the late Sir James Nasmyth at New Poffo.

In hill countries, great heat is often produced, in particular spots, from reverberation. The reflection from a rocky hill upon the garden of Pirn, in Inverleithan parish, is the reason that, in that garden, two crops of peas, fit for the table, have been often successively raised in one season from the same plot of ground. I do not however imagine the gardeners' boast, in some better climates in Scotland, could there be exhibited, of sowing peas, reaping their produce, sowing this produce, and having eatable peas from that sowing, within the season.

 CHAP. X.

 WOODS AND PLANTATIONS.

THE natural wood is inconsiderable. (See article *Surface*.)

The extent of artificial wood, I am apt to think, may amount to rather more than two thousand acres; but my *data* can afford room for only vague conjecture.

The practice of fallowing, liming, and laying the ground in proper ridges, where necessary for draining, previous to planting, has been sometimes used; and ought probably to be used more frequently. From various quarters, I am assured that it contributes astonishingly to the quick growth of trees, to keep the earth around them in cultivation or fallow for a succession of years. This practice might be worth instituting, in plantations in the immediate vicinity of houses erected in situations that have not the immediate advantage of ready grown shelter of trees.

The following facts are ascertained in experience by John Loch Esq. in his plantations of Rahan. Trees, when not deprived of their lateral branches by pruning, naturally grow with their boles of a *conical* form, corresponding to the general outline figure of the whole tree: After ceasing to grow so fast to height, the top gets gradually rounded, from the dropping off of the under branches through rottenness, occasioned by the overshadowing of the upper branches: After this period, the bole advances less in girth at the root, but more in girth towards the top, losing more and more its *conical* shape, and approaching nearer to a *cylindrical* form. For experiment's sake, he early pruned a parcel of trees in the plantation, by
 rubbing

rubbing off the lateral buds as they began to shoot : These trees are at present, and have been, for many years, of a *cylindrical* form in the bole, from the root up to those lateral branches which had not been displaced ; whilst those, of like age, which had never been pruned, still retain their boles of a conical shape. Hence, one of two conclusions seems necessarily to follow : either, *first*, that the upper part of the boles of the pruned trees has been accelerated in growth, without retardment of growth in the under part of the bole : or, *secondly*, that the upper part of the boles has made merely, or little more than, the ordinary advance ; whilst their under part has been retarded, from the abstraction of the branches, whose office it is, probably, to attract the sap in greater quantity to the parts of the bole contiguous to their insertion. From the general appearance of the pruned and unpruned trees, the last conclusion appears the proper inference. Whence, it would appear, that pruning is unfavourable to the growth of trees ; at least, in so far as to prevent them from attaining to the same content of solid wood in the bole, in equal time.

From Dr Anderson's reasonings, (in the third volume of his *Agricultural Essays*), it would nevertheless seem probable, that, in order to obtain good wood free of notches, the arrangement of nature must be followed in plantations ; that the trees must be planted so thick, as that the exclusion of air must speedily prune off the lower branches, in making them die and drop through rottenness ; or, if not so thick planted as to produce this effect, that they should be timeously pruned.

In one part of Mr Loch's plantations (where the surface soil is very poor, producing but dwarfish heath, and incrustated with a white coloured lichen, as with a leprosy), it is evident (from the firs, in which the length of each year's growth is seen, in the length of bole intervening betwixt the off-sets of lateral branches), that the trees had at first languished, whilst their roots were confined to the ungenial surface soil ; but that, apparently, upon their roots piercing into a substratum of better mould, they had taken on more vigorous growths.

The

The Rachan plantations exhibit a striking instance of *beauty*, incidentally obtained as an accessory, where *utility* was pursued as the primary object—the most satisfactory mode, surely, in which it can be obtained. In picking out the good soil, worth improving, from the bad, and in enclosing *it*, the bad was, of course, enclosed; so that no farther expence was incurred, in planting up the bad soil, but the mere purchase and insertion of the trees: And such, happily, is the situation of the grounds, that the plantations are disposed in all the wild irregularity of nature.

The greatest extent of healthy thriving plantation is, perhaps, to be found at New Poffo, and at Stobo, upon the opposite sides of Tweed, in Stobo parish; where the soil or climate seem peculiarly favourable to the growth of trees. There they hardly contract moss, so incident to trees in the upper parishes.

Larix has been experienced to thrive better than any other wood, upon our poorest soils, and in our most exposed situations. We have strong proofs of its superior durability in paling, even of the short age of twenty years growth. It is become a favourite tree. Hitherto, it has been thinly interspersed among other trees in plantations; and, from so speedily overtopping all others, it is wind-waved, for want of shelter. This has lately introduced the practice of planting them by themselves, in thickets, that they may shelter one another.

CHAP. XI.

WASTES OR COMMONS.

(See ENCLOSING, Page 126.)

CHAP. XII.

IMPROVEMENTS.

SECT. I.—*Draining.*

THE generality of the cultivated soil in Tweeddale, being light, draining is not of such general indispensability, as in counties of more retentive soil: The greater part of it, too, lies upon such declivity, as affords a ready descent for the surface water. Where necessary, draining has been generally attempted, either by open ditches, or by covered drains, pretty deep and wide, filled with stones, at such expence and difficulty of procuring materials, as precludes any great extension of them: It is thus attempted, often, at great expence, and, not unfrequently, to very little purpose.

Elkington's mode of draining, as described in Mr Johnston's book upon that subject, viz. "*the tapping of the (supposed) reservoirs in hills, by boring auger holes into them, so as to procure a free issue for their waters, which are received into, and carried away by, proper ditches, prepared for their reception; preventing, thus, the water from oozing out, from want of proper vent, in all directions, over the edges of these supposed reservoirs,*

fervoirs, through large tracts of superincumbent surface, and wetting the land, to a great extent, below :” As also, his mode of draining *land-locked bogs*, from whence there is no outlet for the water, “ by boring through the impervious strata, in the bottom of the bog, upon which the water rests, into such pervious strata as may (very probably) be found to exist below.” These commendous modes of draining (when they shall be perfectly understood) promise to be both the most extensively useful, and the least expensive, that can possibly be adopted, in all cases to which they shall be found applicable. In all the supposed cases put by Mr Johnston (in regard to the position of the strata, and of the receptacles where the water supplying the springs is contained in hills), the remedies suggested must infallibly prove effectual : The supposition, however, of the existence of such bowl-shaped cavities, where the water overflows the edges of the bowl all around, and which, instead of being allowed to overflow the edges, might all be drawn off by an auger hole, bored into the bottom of the bowl, would, it is feared, be seldom found realized in the hills of Tweeddale ; where the strata more generally assume an oblique position, than one any way tending to horizontal. It is evident, that the practitioner, upon this method, must ever proceed merely upon *supposition* ; which may or may not be realized. Long experience would seem necessary to enable him to form probable conjectures.

But, besides that wetness, arising from water-reservoirs in hills, and from collections of water in land-locked bogs, there are many tracts of land kept in an inferior state of production, from a thin surface soil incumbent upon a till impervious bottom ; where, from the incapacity of the soil to absorb any considerable quantity of water, the land is put into a poachy state by every heavy shower of rain. Mr Johnston (in his account already quoted) has given a most perspicuous and well reasoned description of the modes adopted in England (particularly in the county of Essex), to remedy this evil, by means of a very economical species of *covered drains*.

Sir George Montgomery of Magbiehill introduced this mode of draining, in 1797, with most complete effect, in his parks

of Sunnyfide, in Newlands parish. The foil of these parks was of that thin, black, moorish nature, upon a retentive till bottom, already described (p. 14.); so poachy, in Winter, that, when pulverized by fallow, it, in Winter wet, presented no more resistance to the foot of the passenger (which plumped down to the subfoil), than what would have been presented by a-bowl of rice and milk: Even when in pasture, and the surface firmed by grass sward, the parks were extremely subject to Winter poaching; and, upon the second or third year of pasturage, the furrows betwixt the ridges used to be completely grown up with rushes. The first park, drained after the method described by Mr Johnston, had been pastured one year previous to the draining process: In an hour or two after the heaviest rains, a horse may now gallop over this, without almost leaving the impresson of his feet; and the rushes, which were beginning to take possession of the furrows, have literally all perished for want of moisture: I have, indeed, never observed such a total change of the nature of any foil. The moderate expence of the execution, would seem to render this mode of draining an undertaking suited to the transitory interest, in the foil, of even a tenant upon a lease of nineteen years; provided, at least, he is not subjected to the risk of forfeiture, during its currency, from the injudicious retention of the *delectus personæ*, through the constructible, or expressed conditions of the lease. The expence would, in few instances, exceed thirty shillings per Scots acre.

Instead of detailing the practice at Sunnyfide, it may be of more use to state, in general, the mode of forming these drains; and the general principles of the practice.

The œconomical mode of forming these drains, is, *First*, to open up a trench by the plough where the drain is to be drawn, throwing off a furrow slice to either hand, in going and returning; if the plough is not used, the earth must be dug out by a common garden spade, one spading deep. *Secondly*, Another spading is dug out by a spade, 12 inches deep, and 8 inches in breadth at top, tapering to 5 inches in breadth at bottom; this second spade is provided with an iron wing upon its shaft, by
which

which the digger, standing on the surface, forces it with his foot into the ground, it being impossible for the operator to stand within the narrow trench, previously formed by the common garden spade: the mouldery earth, falling from this second spade, is cleared out by a corresponding shovel, which, for the reason already assigned, is bent a little upwards in the neck. *Thirdly*, Another spading is taken out of the trench, thus formed, by a spade (furnished with an iron wing for the foot, a little farther up the shaft) of 16 inches in depth, and $3\frac{1}{4}$ inches in breadth at top, tapering to $2\frac{1}{4}$ inches at bottom: This spade is formed very strong, and rounded considerably in the back, to afford the better prise; and is, in short, pretty similar to the instrument used in this county, under the name of the *foot-pick*, or pick-ax for the foot: The mouldery earth, falling into the bottom of the narrow rut formed by this third spade, is then scraped out by an iron *scoop*, attached to a wooden shaft; the scoop is like to the one half of a tube divided longitudinally, or to the boring part of an auger or *wimble*; it is about a foot in length, $2\frac{1}{2}$ inches in width at the neck, tapering to $1\frac{1}{2}$ inch at the mouth; its iron neck is bent, so that the scoop forms an angle of about 45 degrees with its shaft, enabling the operator, standing with a foot on each side of the trench, easily to scrape out, and throw aside, all the loose earth from the bottom of the rut.

The bottom of the drain, so formed, should be 26, or, better, 30 inches below the surface.

The drain is then stuffed with wood prunings, cuttings of hedges, weedings of fir plantations split, or with heath or whins, or with straw or rushes; which two last, when used, are directed to be twisted into ropes, of the size of a man's arm, and three such ropes to be put into the drain, one singly, the other two along-side of each other. The stuffing is put in, in such bulk, as to stick fast before reaching the very bottom of the rut, so as to leave a passage of 2 or 3 inches clear at bottom, for passage to the water; though, when the materials are of loose contexture, this is of less consequence; the water percolating through their interstices, and finding always more room from that decrease in bulk, which ensues upon the decay
of

of such perishable materials. A person, with the scoop, goes immediately before the one putting in the stuffing, to scrape out any loose stuff that may have tumbled into the rut. It is almost superfluous to mention the propriety of beginning the operation of stuffing, at the head or highest part of the drain.

The stuffing being put in, and, if it is of very open materials, a little straw or rushes being laid a-top, to prevent earth from running through it—and the drain being stuffed to the height of 10 inches, or a foot, from the bottom—the earth taken from the drain is returned above the stuffing; care being taken to lay the most free and loose earth immediately upon the stuffing, that the water, oozing from the soil, may find ready admission into the drain: For this purpose, the stuffing is sometimes covered with sand or gravel.

Where the drains are conducted in the same direction with the declivity of the field (that is, straight up and down), they will draw water laterally to the distance of two yards and an half from their sides, in very retentive soils; and, by consequence, they ought to be made parallel to each other, at every five yards distance. They are, in no soil, found to draw to a greater lateral distance than three yards and an half; and, of course, ought never to be placed at a greater distance than seven yards asunder. The less declivity such drains have, they are, in Essex, accounted the more permanent; because, where the water has a quick run, it is ready to abrade earth from the sides, or raise it from the bottom of the rut, so as to occasion obstructions. On this account, where the land lies on a steep declivity, it may be proper to carry the drains sloping across the declivity, in order to diminish the velocity of the run of water; in this case, the drain can only catch the water from its upper side, and can draw none from the other side; though, perhaps, it may draw to double distance from land above it, than from land upon the same level; so that, probably, the drains need not be made more frequent in this direction, than when the course of the drain follows the natural decline of the field, and, of course, draws from both sides.

Drains of this kind, stuffed merely with straw, have been known, according to Mr Johnston, to last twenty years, without exhibiting the smallest symptom of decay; and it is not known how long they may still endure. Stuffed with brushwood, they have been known to last forty years, with little or no repair. It is judged, that fresh cut green branches are the most durable stuffing, particularly those of the willow and the beech. Stones are considered as the very worst of stuffing for such drains; as, whenever an obstruction is once formed, it must remain: Whereas, when the stuffing is of wood, heath, straw, rushes, &c. even when small obstructions are formed, new vent is soon found for the water, in the vacuities formed by the decay of the stuffing materials.

Where a drain is obstructed, the water rises to the surface, immediately above the obstruction; and the remedy is, either to clear out the drain at the spot, or, which is easier, to cut a new drain from above the obstruction into the next drain.

When obstructions become so numerous, as to require the field being drained anew, the approved method is to conduct the new drains, so as to cut across the old ones, making them also a little deeper; by which means, the field is more effectually drained than at first. In cutting across these drains, the whole stuffing has been found entirely consumed; but the earth so perfectly arched over the place originally occupied by the stuffing, that the passage for the water remained clear, and the drain was found (in the Essex phrase) to *bleed freely*.

These drains can only prove effectual, where the rut, formed by the last narrow spade, is cut into an impervious till bottom; as, where the bottom is of sand or gravel, the water escapes from the rut, to rise again in some other part of the field. Where there are only partial spots of this open bottom, the Essex practice is, to conduct the water in the rut over these open-bottomed patches, in a pipe formed of puddled clay.

The whole drains of the field may be conducted, either into a receiving open ditch, at the bottom of the field, or into a covered drain: in the last case, this receiving drain should have a flagged or causewayed bottom, built sides, and covering flags.

In very stiff clays, the surface water might be incapable of percolating into such drains; in which case, crowned ridging is the only remedy.

In sheep-walks, never intended to be ploughed, such drains, formed much more shallow, and stuffed or covered, by merely inverting the surface turf, might often be of essential benefit.

SECT. II.—*Paring and Burning.*

VERY little used in this county; apparently ruinous in thin soils; might be used advantageously in deep moss soils; were it not that not one season in ten gives drought enough for the operation, and that the preparatory steps (in case of failure) would be very obstructive to other modes of culture.

SECT. III.—*Manuring.*

Teathing, by folded sheep or black cattle, has already been noticed.

The other manures used, are, the dung of cattle from the farm-houses, lime, compost of lime and moss, or of lime and scourings of ditches*.

Dung of cattle collected in farm-offices, seems too little attended to, in regard to the most proper mode of storing it up, for proper fermentation, and for preservation. The dungstead is often found situated upon a declivity, allowing the juices to run off; or upon a bottom of loose gravel, unsecured, by causeway, above clay, to prevent the juices from being absorbed; or so placed, that the rain water from the roofs of the houses runs into it, and from it, washing out and carrying away the soluble and most nutritious particles of the dung. Little consideration seems paid to the principles, that, too

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much,

* In a comparative experiment of Captain Mackay's at Scotston, betwixt the effects of the pure dung of cattle and those of compost of scourings of ditches, with lime, both applied to old croft of deep rich loam, the result turned out in favour of the compost, for three or four successive crops. Perhaps in such soil there might be much matter for the lime of the compost to convert into vegetable food.

much, as well as too little moisture, and too much exclusion of air by over consolidation, as well as the too free admission of it, are all equally unfavourable to a proper fermentation.

Lime is, still, sometimes, injudiciously applied to the sward immediately before ploughing, so as to fall to the bottom of the furrow when the field is ploughed; the practice of letting it lye upon the sward for an year or two before ploughing, that it may incorporate with the grass roots, is however more approved: It is generally esteemed best to apply it, new slack-ed, in its highest state of pulverization, to fallow previously harrowed smooth; then to harrow in the lime after it is spread, and afterwards to plough the land with a shallow and narrow furrow.

Whether, upon land kept in constant rotation culture, it is best to lime fully at once, or to lime slightly at short intervals, seems not well decided in this county.

The theory of lime seems not at all well understood: And it would seem prudent, to keep the theory still open, that it may be accommodated to such facts as shall present themselves in experience, rather than shut it up definitively, to their exclusion—the common effect of theory when embraced as complete, and adhered to with bigotry *. That its caustic alkaline nature, when applied quick, should dissolve the small seeds in the soil, or the live roots, converting their oils into soap soluble in water, and fitted to enter the capillary vessels of the roots of growing vegetables, seems contradicted in experience. Lime, spread quick upon growing plants, never has been found to dissolve them: whence then should it be supposed destructive of the organization of live roots? In drying pickled

* Without forming a theory, knowledge would be a mere process of memory, and would consist of a mere lumber load of disjointed, unconnected facts, incapable of inference or application. It is wisely ordered, for the increase of useful knowledge, that man should delight in system; and should in general feel a mental want, till the facts which have reached his knowledge are systematically arranged; when, alone, he can say, that he *understands* or can *explain*. Every thing, however, has its extremes: systematic inference ought never to be implicitly trusted, without verifying its conclusions by experience, where attainable.

pickled wheat, by dusting it with quicklime, more of that substance is surely brought into contact with the grains of wheat, than what can be supposed to fall to the share of the seeds of weeds in the soil, even upon a strong liming: and why should what is found beneficial in the one case, be supposed noxious in the other? Or, if this is supposed one of its principal effects, beat unburnt limestone, or slacked lime become neutralized or effete by the reabsorption of fixed air, should at least be incapable of producing those effects; though it would appear doubtful whether its effects have not been observed equally good, when applied in these states, as when applied in its quick or caustic alkaline state.

From a large tract of land in Lyne parish, which had never been at all cultivated, the farmer reaped a long succession of weighty crops of oats, after liming. Upon a renewal of lease, he thought he might apply to this land for a repetition of the same crops, upon a fresh application of lime. He limed a part which had lain in pasture for fourteen years; but his crop was worth nothing: And he is convinced, that no return is to be expected from this land, but by the application of dung, in teathfolding or otherwise.

In a field in the parish of Skirling, which was supposed to have been limed long ago, the tenant had recourse to complete fallow, as a preparation for laying down in grass. The field was limed upon the fallow; and a few ridges were left unlimed, in order to observe the difference. No difference was observable in the crop last season, nor is observable in the grass this Spring.

These facts seem to indicate, that lime fertilizes, by acting upon pre-existing materials in the soil; whether, by neutralizing acids inimical to vegetation, and thus removing obstructions impeding the operation of its vegetative powers; or whether, by stimulating, by direct influence, these powers into action.

In Dr Anderfon's essays on lime, as a cement and a manure, some experiments are detailed, which would indicate its effects as a manure. And many years ago, I recollect to have heard
facts,

facts, adduced by a Mr Smith (which occurred in his improvement of the estate of Mr Glafsford, the great Glasgow merchant) and by Mr Pitlo, (as results occurring to him in improving farms of Sir William Cunningham's of Livingston), which seemed to point to the same conclusion.

Whatever may be the just theory of the *modus operandi* of lime, its application must be found, in general, advantageous in this county, as may be inferred from the increasing demand for it among the farmers.

From some experiments we have heard of in Yorkshire, it would appear, that lime laid upon grass, without being mixed with the soil by ploughing, had no perceptible effect. At Magbiehill in this county, a grass park was limed, without being ploughed, to the extent of three times the rate of ordinary liming; to the very great improvement of the grass, and proportional increase of the rent.

The common rate of liming, near to the limekilns, is from twenty to twenty-five bolls of shells, or from ten to twelve single-horse cartloads per Scottish acre: though, at the remotest distance, where the shells (carriage included) cost from four shillings to four shillings and sixpence per boll, even the low rate of fifteen bolls of shells per acre, is found evidently beneficial upon unreclaimed land newly broken up. Indeed, at these distances, the soil is found, generally, more light and sharp.

Moss is sometimes applied, even in a raw state, and fresh dug, to light soils, apparently with good effects. I have seen it thus applied at Blyth, in Linton parish, in supplement to teathing, upon the ends of ridges, over which the fold-dike enclosure could not be conveniently extended.

Some burn it, after drying it, in open fire; alleging that the fire only dissipates the aqueous moisture, and use the ashes so procured. Others burn it in a smothered fire, keeping the flame from bursting out, by the addition of wet moss, fresh dug, to prevent the escape of volatile particles.

It is very commonly made into compost with lime, with or without a proportion of the dung of cattle. Made into compost

post with lime alone, it would appear, from Lord Meadowbank's experiment, of very little value.

Moss, in some English counties, would appear to constitute a most powerful manure, even when merely dried, pulverized, and sown on the field by the hand. It may, no doubt, vary in quality, in different situations; and is probably of superior quality, in proportion to superiority of climate. We are led so to judge, in comparing the astonishing returns from mosses cultivated according to Smith's recent method, in the low-lying county of Ayr, with the effects produced in this county, by a similar mode of treatment, which hath long been practised, with very little advantage, by Sir James Montgomery of Stanhope, at the Whim.

From Lord Dundonald's experiments, moss would appear convertible into very rich manure, when treated with such superabundance of alkaline salts as shall suffice, not only to disengage the acid, by which the large portion of oil contained in it is bound up, but also to convert that oil into soluble soap. Lime is our cheapest alkaline substance; and yet Lord Meadowbank experienced no valuable result from the mixture of moss and lime in compost; although Smith's improvement of moss in Ayrshire, seems to depend upon the large application of lime to moss soil, drained with shallow drains, so as not to dry it to withering. It is ascertained also, by late experiments, that the alkali of potashes is obtained, in incomparably greater quantity, from almost every species of weed dried and burnt, than from the burning of wood, whence alone it was in use to be procured. His Lordship's brother, the Reverend James Athol Cochrane, has, this season, been instituting a variety of experiments upon moss, as a manure, and for other purposes, at Lamancha, in this county; the result of which will probably be laid before the public.

Lord Meadowbank, in his publication, December 1801, recommends the following method of forming compost of moss, the good effects of which he conceives as sufficiently vouched from his six last years experience of its application.

Let a row of cart loads of *new made* dung be laid out along the crown of a dry ridge, on which the midden is to be formed, close to one another: Let two rows of mofs be then deposited, one on each side of the row of dung. The midden is then thus formed: The workman begins at one end of the rows; he throws forward so much from the rows of mofs as shall make a bottom of six inches thick; he then throws, upon this bottom, dung, from the dung row, to cover it ten inches thick; then, above this, six inches of mofs; then four or five of dung; then six more of mofs; then a thin layer of dung: He then covers the outward end, and the two sides, with mofs, and lays on mofs a-top till it is raised to the height of four feet, or four and an half. Having thus completed this part, he proceeds, as before, till the whole is formed. Ashes of coal, peat, or wood, should then be spread over the top of the midden, at the rate of about one cart load to twenty-eight carts of compost; or, if these are not be had, about half the quantity of finely powdered slacked lime.

The mofs used should be thrown out of the mofs-pits weeks or months before being deposited for the midden; that, by draining and drying, it may not check the fermentation intended to be produced, through its excess of pressure, or of moisture. Care must be taken, for the same reason, not to set a foot upon the compost when making up. And if the dung used has little litter in it, fresh weeds, potato shaws, &c. or even sawings of timber, must be added in making the compost, to keep it open.

In mild weather, seven carts of common farm dung is sufficient for twenty-one of mofs. In proportion to the cold, more dung is necessary for proper fermentation. In Summer, the fermentation may come on in ten days, or sooner; it is apt to exceed, and to firefang the materials; a stick should be kept in it, to try the heat; and if it arises to near blood heat, it should either be watered, or turned over, when fresh mofs may also be added. It should thus remain untouched, till three weeks before using; when it should be all turned over, upside down, and inside out. This compost is equal, weight for weight,

to the best dung. When the moss is used raw, it should be laid upon the midden lumpy, to admit air.

More experiments ought to be made in regard to a species of manure so frequently obtainable in this county.

Urine of cattle, till of late too much neglected, is now more attended to: It is collected by earth laid down to absorb it (as are also the juices running off from dungsteads); or it is received into a pit furnished with a pump. Mr Stewart, at Esfields, a farm below Peebles, belonging to James Hay Esq. of Hayston, collects the urine in the way last mentioned, and applies it to the land by putting it into a puncheon, furnished, at the hindermost end, with a pipe, terminating in a large rose like that of a watering pan; the puncheon is fixed upon a wheel carriage, drawn over the field by one horse, and the urine from the rose besprinkles to the breadth of nine feet; so that an eighteen-foot ridge is watered in the going and returning of the carriage. He observes, "That as urine is of a scorching quality, it is unsafe to apply it to any growing crop, in great heat or drought; so that, in general, it is unadvisable so to apply it, after the month of May: That it ought not to be applied to any land in Winter, from its being so easily washed away by rains; and never, on wet lands, earlier than the month of March; and then, only in dry weather: That it may be laid upon fallow, at any time when it is dry enough to absorb it readily: That, in dry warm weather, it is advantageously laid upon dunghills, particularly those of compost."

The *modes of applying dung* have already been explained. Perhaps the mode of applying it, in *top dressing*, has not been attended to so much as it deserves. This mode is seldom practised, except for pasture parks, with compost; or with compost or ashes, to forward a second growth of clover.

If well prepared dung were spread upon crops *in a growing state*, in Spring, it would seem probable that every nutritious particle, washed in by the rains, would be greedily absorbed by the roots, *now in an active bibulous state*: But when manure is ploughed in, it seems probable that much of it is placed too deep, to be reached by the plants; and, particularly,

when it is ploughed in before Winter for a Winter crop, that much of those juices, diluted by Winter rains, passes by the roots, without being appropriated by them, which they would have readily absorbed, if in an active vigorous state of growth. If such application were used, when the weather is not as yet so hot as to occasion evaporation, or when the plants so far cover the soil as to prevent it; it seems feasible to suppose, that a much less quantity of manure would produce a much greater effect. This mode of application seems to be used, to much advantage, in several English districts. I have had occasion to observe, this Spring, great superiority of effect from ashes harrowed in with the seed; probably the effect may not be lasting.

SECT. IV.—*Weeding.*

THE larger weeds only (such as docks, thistles, and mugwort) are pulled from the corns. Lint alone is carefully hand-weeded. Green fallow crops are weeded by hand and horse-hoeing. In an experiment of hand-weeding oats, by James Reid Esq. of Peebles, at the expence of about a crown *per* acre, the additional return, above the yield of the unweeded part of the field, was estimated at about one boll *per* acre: the fallow green crop cleaning husbandry being then, however, scarcely in practice, the difference would be the more remarkable. Hands could not be procured to carry on this operation to any great extent; and the new husbandry seems, in a great measure, to supersede its use.

SECT. V.—*Watering.*

FORMERLY this species of improvement seems to have been pretty much in practice, in the parish of Dolphington, in the contiguous county of Clydesdale. It seems to have fallen into disuse, probably from never having been scientifically conducted.

In the year 1797, a *float meadow*, and a *catch meadow*, were formed upon the farm of Kirkhouse, in Traquair parish,
(belonging

(belonging to the Duke of Buccleugh, and rented by Mr Curren), by Mr Stevens, the person sent to Scotland for that purpose by the Board of Agriculture.

The success attending the watering, in these instances, has diffused the practice. A farmer, on Traquair estate, has got one executed by Stevens, which is flooded by the water of Quair; being contented to lay out the principal, and to forego the interest, during the currency of his tack, upon condition of being reimbursed the principal at the expiry. Robert Campbell Esq. has had one formed at Kailzie, to which he is intending to make additions; and several more are in contemplation.

I find no better way of explaining the subject, than by inserting the following account and plan, which I sent to the Farmer's Magazine, and which is inserted in No. X. That account was chiefly suggested from what I had found in a pamphlet, published by Mr Wright in 1798-99, upon the method of floating land in Gloucestershire. I have added notes, from what occurred from the perusal of a pamphlet of Boswell's, in Dorsetshire, published in 1790.

Explanation of the Plates.

PLATE I.

Fig. 3. represents a float meadow, under irrigation; the dark shading representing the water.

When the hatch of the water dam-dike * (marked H) is lifted up, the water runs in the natural channel of the river; when the hatch is shut, as represented in the figures, the *natural channel* is laid *dry* below it, and the water runs laterally along the *main feeder* † in the direction of the arrows, and is from it distributed into the *floating gutters* ‡ (g g g g), which are

* Where there is but one outlet (or *thorough*) in the dam-dike, the dam-dike is designed, by Boswell, a *sluice*. Where there are more than one outlet or thorough, with corresponding hatches, the dam-dike is designed a *weir*.

† The main feeder is designed, by Boswell, the *head main*.

‡ Boswell designs the floating gutters *trenches*.

are formed along the crowns of the ridges into which the meadow is arranged, overflowing on both sides of said gutters, and running down the sides of the ridges into the furrows or drains § betwixt the ridges (*d d d d*); which drains discharge it into the *main drain* ||, whereby it is returned into its natural channel at the foot of the meadow.

The marks (o o, or $\Delta \Delta$), and the *tufts*, in the main feeder and the floating gutters, denote—The *first*, obstructions (called *bends* by Boswell) made by stakes, or fods, or stones, in order to raise the water, and make it flow over from the main feeder into the floating gutters, or from the latter over the panes; the *second*, notches cut in their sides, with a similar intention. If, however, the main feeder and floating gutters are properly constructed at their first formation, these supplementary aids will be, in a great measure, unnecessary; for the main feeder ought, at its entrance, to be of dimensions just sufficient to admit the quantity of water which is to be conveyed to the meadow; and gradually to contract its size as it goes along, in order that the water, for want of room, may be forced into the floating gutters, dribbling also over every point of its own sides: The floating gutters ought to be formed after the same model, that, by their primary construction, the water may, in like manner, overflow their sides through their whole course. That as little as possible of surface may be taken up in unproductive water courses, a similar mode of construction must be adopted in the drains; they ought to be narrow, nearest to the main feeder, where they receive little water; and to diverge, in proportion to the greater quantity of water they have to carry, as they approach nearer to the main drain: This last is, for similar reason, similarly constructed. In the three plates, this mode of construction is made obvious to the eye.

The

§ The furrow drains betwixt the ridges, Boswell designs *trench drains*; and the piece of grass surface, over which the water floats, lying betwixt each *trench* and *trench drain*, he designs a *pane*.

|| The *main drain* is called, by Boswell, *tail drain*.

The meadow, in this plate, must be conceived to lye in a regular and very gentle slope, from the main feeder to the main drain.

Fig. 1. and fig. 2. present a view of the ridges cut across, with each its feeding gutter (*g*) upon its crown, with two discharging drains (*d d*) along their sides. When they are formed in grass land, with the intention of preserving the grass sward whole for immediate watering, they may, most cheaply, though more roughly, be formed, as represented in fig. 1.; the floating gutter being merely bulked up into its proper shape, by the soil and sward taken from itself and from the receiving drains, in forming them; when, the depositions of sediment from the floating water, will gradually fill the shoulders of the floating gutter, up to the dotted line, moulding the ridge at length into the shape of fig. 2. Were it not for the greater expence, it would be better to make them of the shape of fig. 2. at their original formation. It comes more cheap, though it occasions more delay, to plough the land into proper ridges, and, after completing the formation by the spade, to sow it off with grass seeds, and to delay the flooding till the sward has attained to a proper consistence*.

In the formation of the meadow, particularly if the declivity is very small, care should be taken to lose as little as possible of the level, in the main feeder and floating gutters, by giving them such small descent as shall barely suffice to make the water run; in order that the greater descent may be afforded to the water, down the sides of the ridges from the floating gutters

* It would appear probable, from some experiments in Tweeddale, that water admitted over recently sown artificial grasses, makes the land throw them out. Perhaps, indeed, sufficient care had not been taken to let the water off as readily as it came on: Upon supposition, however, that natural grasses would prove more hardy, an intelligent farmer in Dunfyre parish, shire of Clydesdale, who is forming a water meadow, proposes to take a crop of oats, after a first rough formation by the plough; then to let the land lye in pasture one season, for the further establishment of the natural grass roots; then to plough into the full shape, assisting the formation by the spade, and to take a second crop of oats; after which, either to water immediately, or pasture another season, as the sward shall or shall not appear to have a proper consistence.

gutters to the receiving drains ; that thus the water may float over the grass panes, with the greater rapidity, and in more quick succession—the principles upon which successful watering, in a great measure, depends*.

The narrower the ridge is formed, the greater descent can be given from the gutter on its crown to the drain in its furrow, so as to make more water pass, in a given time, over the grass-bearing pane ; but, at same time, the more surface must be unprofitably occupied in unproductive gutters and drains. A balance medium must be attempted betwixt these advantages and disadvantages. Mr Wright expresses the opinion, ‘ that the breadth of the ridge ought never to exceed eleven yards, nor to fall short of eight.’ Mr Boswell is not explicit as to the breadth of ridge ; he, however, incidentally, in treating of the formation of a particular description of meadow, in dry ground, mentions ten or twelve yards : In general, he observes, that, upon light channelly or sandy soil, the breadth of the ridges may be extended, and more meadow may be watered by less power of water ; and that, in strong clay, or mossy (*corky*) soils, more water at a time, and longer continued, is requisite ; and the ridges must be narrower : In these last soils, the heavier and more rapid the body of water which is made to pass over them, so much the more of beneficial effect is to be expected ; unless, indeed, the current is so unmanageably rapid and weighty as to endanger the tearing off the sward.

It is evident, from the inspection of this plate, that, if the meadow has been properly formed according to the foregoing description, the hatch (H) is no sooner lifted up, than the water resumes its natural channel, and the meadow becomes immediately dry ; its figure immediately freeing it of all surface
water,

* In a meadow, formed Spring 1797, by Mr Talbot of Penrick Castle, the descent of water, in the floating gutters, is at the rate of one inch in nine yards ; and of two inches in one yard, over the sides of the ridges ; the distance betwixt the floating gutters and receiving drains being five yards, or the whole breadth of the ridge ten yards. This formation, Mr Wright commends as nearly perfect ; though, in respect of breadth of ridge, he prefers that adopted in the Duke of Bedford's meadow, where, from more abundant water, it is fixed at eight yards.

water. To prevent the possibility of any water getting into the meadow, when intended to be laid dry, Mr Boswell takes notice of the *trunk*; which may be a log of wood bored like a pump stalk, and is buried under ground at the entrance of the main feeder; one end (which is shut with a hatch or plug when the meadow is to be flooded) opening in the bottom of the main feeder, the other into the channel of the river below the hatch (H). The same effect is produced, either by prolonging the first floating gutter into the main drain, with a hatch to shut it, at proper distance from the main drain, when the water is turned upon the meadow; or by carrying up the first drain to the main feeder, with a hatch to shut it when the meadow is under water, and to be raised up when the meadow is laid dry.

The convenient contrivance of the *way-pane*, noticed by Mr Boswell, may here be explained.

Suppose, then, the meadow of this plate 1. to be enclosed, on one side by the natural channel of the river, on the other three by hedge and ditch, with the ditches next to the meadow, and the hedges on the other side of the ditch; it is evident, that advantage may be taken of the ditches, at the head and foot of the meadow, for the main feeder and the main drain; and that the ditch on the side of the meadow opposite to the channel of the river, may serve the purpose of the lesser drain (*d*) on that side. Boswell has no objections to this use of any of the ditches, but to that of the head ditch, for the purpose of a main feeder: Not only would the roots of the thorns breed obstructions in the main feeder; but, which is of more disadvantageous consequence, rats and moles, working in the bank, would make holes in it, by which the water would be carried off. To remedy this, besides other advantages, Boswell advises the forming of the main feeder parallel to the head ditch, but at the distance of a half ridge, or pane, below it*. This pane is formed to slope properly from the main feeder into the head ditch, and is floated immediately from the main feeder. This pane is called the *way-pane*; because carriages for carrying off the

* Or at such distance as shall suffice to turn a hay cart.

the hay are admitted upon no other part of the meadow; which saves the damage that would accrue from wheels crossing the floating gutters and smaller drains; the hay, in making, being all carried up, in course, to the edge of the main feeder.

This meadow is all flooded at one time; or, as Boswell expresses it, by one *turn* of water.

PLATE II.

This plate represents a float meadow, lying in different declivities: It may be floated all at once; or, if the water is deficient, at all times, or, in time of droughts, any one, or any two of the three compartments into which it is divided, may be singly watered, while the remainder is kept dry: It is a meadow with three *turns* of water.

In this meadow, it is supposed that the ground rises from the natural channel of the river up to (F 1.), which is a feeder with its corresponding floating gutters (*g g g g*); and thence descends to the hollow along which is conducted the drain (D 1.), which receives the water from the lesser drains (*d d d*), and discharges it into the main drain. It is supposed, that the ground rises again from (D 1.) up to the second feeder (F 2.), and thence descends to the hollow, along which is conducted the receiving drain (D 2.) The remainder of the meadow is supposed to lie in a regular slope, from the main feeder to the main drain, or last mentioned receiving drain. The letter (*r*), in this and the former plate, marks a small rut or gutter, formed by a spade or triangular hoe, for conducting water to places upon which it does not appear to scatter regularly.

The hatch upon the river's natural channel, and the one upon the feeder (F 2.), are represented as shut; and, consequently, the natural channel, together with that part of the meadow which is floated from the feeder (F 2.) as dry. The hatches, upon the feeder (F 1.), and upon the main feeder, are represented as drawn up; and, consequently, the two parts of the meadow, floated from them, are represented as under water.

FINDLATERS SURVEY.

Fig 1.

Fig 2.



Plate I.
Fig 3.

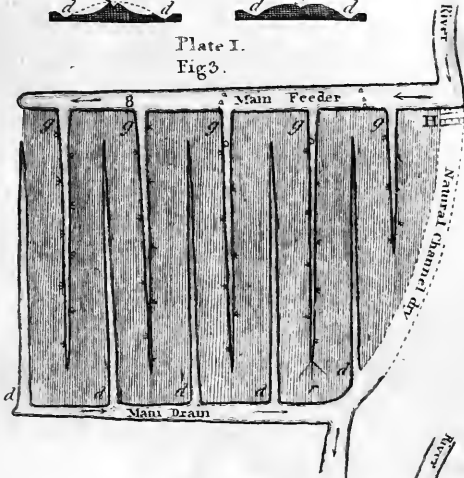


Plate II.

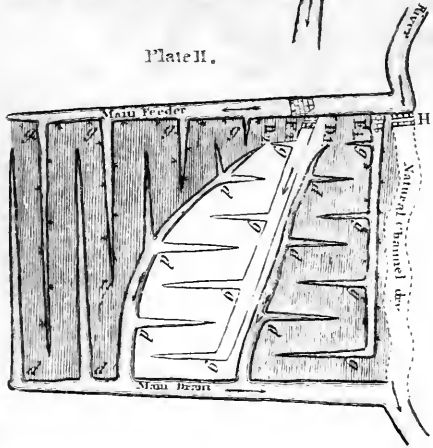
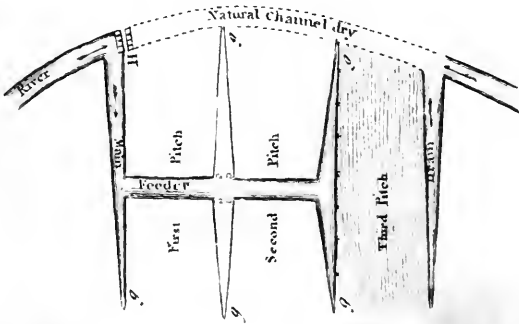


Plate III.





In the construction of float meadows, the floating gutters die away to nothing within four or five yards of the main drain; the water from the extremity of the gutter easily spreading over that space; or, where ready to collect into a stream before falling into the main drain, being made to spread properly by the small ruts marked (*r*): The small receiving drains, for like reason, may be made to die away before reaching the feeders. This is represented in the plan.

In forming meadow, Gloucestershire flooders make no account (according to Mr Wright) of the original quality of the soil or subsoil; the meadow will, in all cases, come in time to be equally good; the goodness depending entirely upon the quality of the water, which soon creates, of itself, soil enough for the plants. The subsoil is of no account, whether pervious or impervious to water; as it is found (after sufficient time for the water depositing sufficiency of sediment), that the water discharged by the main drain, is, in every meadow, nearly equal in quantity to that admitted by the main feeder, any apparent diminution being no more than what might be fairly attributed to evaporation, from such an extent of surface, without supposing any of it to have sunk through the soil*. If, however, there are springs in the meadow, these must be carried off by underdraining; for every meadow must first be thoroughly drained, before you can drown it to good effect.

Used water is considered as of very little use; hence, meadows formed below another meadow, to be watered by the same water that hath, immediately before, watered the meadow above, are considered of very inferior value. Hence arises the propriety of making the watered panes narrow; as, even in meadows where the ridges are the most narrow, the part of

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* Mr Boswell takes notice of a meadow of thin moorish soil, upon an impervious bottom of clay till, watered from a spring near to its source. It proved perfectly barren: When the meadow was laid dry, a yellowish-coloured water oozed through the soil (probably from ochry impregnation of the subsoil): It was covered with chalk and other manures, and all to no purpose: At length it was thoroughly underdrained, when it immediately became productive.

the pane nearest to the floating gutter bears more grafs than the parts farther off; because the former first filter the water, and transmit it *used, in some degree*, to the latter: The balance of disadvantages, however, forbid too great narrowing of the panes, that sufficiency of productive surface may remain unbroken.

Even simple clear water, taken off for the meadow near to the source of the spring, and where no extent of surface is washed by rains to render the water turbid even in the wettest season—even *such* water enriches meadow; with the exception, probably, of springs impregnated strongly with minerals, which might prove destructive to vegetation: The best effects are, nevertheless, to be expected from waters draining a good extent of fertile lands, or receiving the drainings of great towns.

Water is supposed to act both as an *enricher*, and as a *Winter shelter* to the grafs plants. In the former view, the quality of its depositions will ascertain its value; though (as even the water from a spring *enriches*, and as this too is deteriorated *by being used*), it is not improbable that pure water, in filtering through the grafs, undergoes some kind of decomposition; in the course of which it is deprived of some vegetable *pabulum*, which the plants of grafs assimilate to their own substance, and which it cannot again render out in the same quantity, to the plants it next passes over in succession*. As a mere *Winter shelter*, water should have the same effects, *used, as unused*. For both purposes, it would appear eligible that the water should cover the panes in a sheet of one inch of thickness; and moving in a succession, of the quickness given by a descent of two inches to the yard, from the edge of the floating

* By Count Rumford's experiments on food, particularly in making soups from vegetables after long boiling, it would appear that water properly decomposed forms a chief article in animal nutrition. Six or seven ounces of a mixture of peas, potatoes, and barley, weighed dry, will, after long boiling with sufficiency of water, furnish food for twenty-four hours to a hard working man; although it is certain, that a man perfectly idle would absolutely starve upon such an allowance, if administered to him under any other form, and though he should drink along with it the same quantity of water.

ing gutters, upon the crown of the ridge, to the edge of the drain along its sides. To cover the meadow with a sheet of water exceeding an inch and half in thickness, would, it is supposed, rot out the roots, from the too entire exclusion of the air: for the same reason, the water must, at longer or shorter intervals, be turned off the meadow, that the plants may get air. Considering the depth and rapidity of water required in floating, a considerable command of water is necessary for no great extent of meadow. It is always better to contract the extent of meadow, than overstretch the power of the water.

PLATE III.

This plate represents *catch meadow* for the side of a hill, or steep declivity. It is called *catch*, because, when the whole is watered at once, the water, floating over the uppermost *pitches**, is *caught* in the floating gutters, which distribute it over the inferior pitches †.

The lateral horizontal feeding gutters, which scatter the water over the first and second *pitches*, are represented as shut by fods, or stones, &c. (8); and, consequently, these first and second *pitches* appear dry: The whole water is represented as passing down the *main feeder* into the lowest floating gutter; whence it floats the lowest, or *third pitch*, and is received into the *drain* at the foot of the meadow, to be returned by it into the *natural channel*.

When the whole is to be floated at once, the obstructions (8) are taken from the lateral floating gutters: obstructions, meantime, are placed in the *main feeder*, immediately under the floating gutters, to force the water into said gutters: these obstructions must not, however, *entirely* obstruct the main feeder, but must allow some *unused* water to proceed to the lower pitches.

* I am suspicious that the word *pitch* is here improperly used: I believe a *pitch of work* is the technic floater's phrase to denote the portion of a meadow watered by one *turn* of water. It may answer well enough here as a reference to the plate.

† Meadow watered by water caught from a higher lying meadow after having floated it, is called *catch-meadow* by Epswell.

es. The breadth of the *pitches*, in catch meadow, I have not found ascertained; they may, no doubt, considerably exceed that of a pane in a float meadow; because, from the more rapid descent of the water over the ground, it may run farther, without being so much impoverished by so much shorter continued *use*.

Boswell proposes a different form for catch meadow. The main feeder, in this plate, he carries on, along the head of the meadow, and down the side opposite to that bounded by the water's natural course. Drains, of similar form to those marked (*a d d*) in the two preceding plates, but of larger size, are drawn, in the place occupied by the floating gutters of this plate, with their smaller end approaching near to the natural channel, and diverging towards (in order to discharge themselves into) the main feeder, on the opposite side of the meadow. Hatches are placed upon the main feeder, immediately below its turn down hill, and immediately below the discharging mouths of each of the drains. If you chuse to water the *first pitch* by itself, shut the hatch immediately under the turn downwards of the main feeder; the water then accumulates in the horizontal part of the main feeder, and it floats over its bank upon the first pitch: meanwhile, all the other hatches being opened, the water floating over the first pitch, is caught in the first drain below it, and discharged into the perpendicular part of the main feeder. To water the *second pitch* by itself, open the hatch immediately below the turn downwards of the main feeder, and shut the hatch upon the main feeder immediately below the diverging mouth of the drain lying under *first pitch*; the water then runs along the main feeder, without floating over, till it comes to this shut hatch; when it runs up the drain along the head of *second pitch*, overflows its sides, and waters that pitch; and, the hatches below being opened, the drain at the foot of *second pitch* discharges the water into the main feeder. By this ingenious contrivance, the feeders and drains serve the double purpose of drains and feeders, into which they are alternately converted.

Catch meadow, on the face of hills, is not so much prized as float meadow upon flat lying land.

Catch

Boswell proposes, as advantageous, the formation of land into water meadow, *even where there is no perennial run of water*; if, only, it be so situated, that, in wet weather, the drainings of any large tract of cultivated rich land can be collected into a main feeder, and brought over it. This he calls watering by land floods.

After what has been suggested, as to the formation of water meadows, nothing more seems requisite, on this part of the subject, but the explanation of *Rafter Levelling*. When meadow is formed from grass land, preserving the sward, inequalities of small account are equalized by this mode: The small heights are deeply rutted by the spade into narrow parallel stripes; one stripe is taken out, and another left remaining, alternately; those left, are beaten down by the heel or a mallet; those taken out, are chopped and spread in the little hollows, and beaten down: The levelling thus proceeds in double *ratio*; the heights being lowered down, and the hollows elevated.

Watered meadows are expected to yield, *first*, a Spring feed, coming in by the middle of March, or beginning of April: This may be pastured till the beginning of May. If a crop of hay is next intended, the pasturing must cease then; as, if continued for a single week in May, the hay would be ruined in quality (according to Wright); as it will be soft, woolly, and unsubstantial, like a crop of aftermath. *Second*, The pasture having been eaten quite bare, the meadow is watered for a few days, (the fewer, in proportion to the heat of the weather); and, in six weeks or so, a crop of hay will be in readiness for cutting. *Third*, After the hay is removed, the water, again turned over the meadow, for a few days, will produce a crop of aftermath, for pasture or for green house feeding: A second aftermath, or even a third, is procured, sometimes, in the same manner.

The Spring feed, raised by the Winter watering, is a wholesome food for every kind of pasturing animal. No fact, however, is better ascertained in agriculture, than, that *pas-*
turing

turing sheep on grass, raised by Summer watering, infallibly rots them. They must never, therefore, be allowed to taste the aftermath; unless it has been allowed to grow after the hay crop, without watering.

In Scotland, it is not to be expected that watering will produce either such early, or such abundant vegetation, as under the superior climates of Gloucester or Dorset shires.

One general rule in watering is—never to admit the water, when there is growth upon the meadow, fit for either pasture or cutting, as the sediment of the water would make the crop nauseous or uneatable—and to admit the water at the time the meadow is quite bare.

Another general rule is, to proportion the continuance of the water upon the meadow, to the heat of the weather, continuing it longest when the weather is coldest. In hot weather, too long watering is said to produce a scum of a whitish colour, which is destructive of vegetation; and whose cure is, instantly to lay dry. Hot soil needs shortest; cold, longest watering.

The meadows ought to be eaten bare in the middle of October, that they may receive the benefit of the water from the first floods after Summer, which must necessarily have the richest depositions; and this first flooding may be continued for five or six weeks.

In November, December, January and February, the flooding may be continued; first, for five or six weeks at a time, and then, gradually for less space at a time, with intervals of laying dry gradually increasing. From Michaelmas to Candlemas, no flood should be allowed to pass, without its waters being thrown over the meadow, to obtain the sediment. In Scotland, the watering may probably be continued through March.

That the benefit of the water may never be lost, it is proper to have a meadow with different turns of water; or separate meadows, to be alternately watered, and laid dry. This is also peculiarly advantageous in procuring an uninterrupted succession of aftermath pasture, or green house feeding.

By continued course of watering, meadow is not only fertilized for grass, but enriched for tillage.

A Scottish farmer is astonished at the accounts of the return of meadow, as stated by Mr Wright. For instance, in South Cerne in Gloucestershire, the rent obtained from one of the best meadows, per Scots acre, for five weeks pasture from the second day of April; amounted to no less than 5l. 9s. $\frac{3}{4}$ d. The subsequent hay crop amounted to 230 Tweeddale stones per acre, at 22 English pounds to the stone, besides the after foggage, whose value is not stated. The number of cattle maintained per Scots acre, for the above five weeks pasturing, amounted nearly to seventeen wedders, one and a fourth cow, together with one colt.

The average value of meadow in Dorsetshire, is stated, by Boswell, at a much lower rate. Meadows are let, by themselves, at from 30s. to near 3l. per Scots acre; or, if the crops are let separately, the Spring feeding till the 1st of May is let at about 12s. and the aftermath at from 12s. to 18s. per Scots acre; the price of the hay crop varying, according to crop and markets, from 1l. 18s. to 3l. 5s. per Scots acre.

The expence of forming water meadow, every thing included, Boswell estimates at from 5l. to 7l. 10s. per Scots acre, according to the favourable or unfavourable predisposition of the grounds.

In high lying sheep farms, where the returns from tillage are not adequate to its expence, water meadow seems to promise a mode of obtaining an early Spring food for ewes, and Winter fodder for milk cows, and horses kept for carriage of fuel and riding, at a cheaper rate than, in such situations, they could any other way be procured. Mr Anderson has, I understand, introduced watering in his sheep farm of Cramalt, in the high lying parish of Meggot. Our Scottish experience is as yet too limited, to decide upon,

CHAP. XIII.

LIVE STOCK.

SECT. I.—Cattle.

THE average size of milk cows may be about twenty-five stones Dutch weight, when moderately fat. The farmer endeavours to suit the size of his cows to their pasture. He esteems it much more safe to have them under, than over-sized.

Mr Mackie, in his second letter to Colonel Dirom, relative to the corn laws, observes, that small animals take on fat more readily than large ones, in proportion to their feeding, for two reasons: *first*, Because the surface of the bodies of small animals is much greater, in proportion to their solid contents or weight, than that of large ones; and, as fat is mostly deposited upon the surface of the body, they have, consequently, a larger space to lay it upon: *secondly*, Because the muscular fibres of small animals are less tense, and more easily admit that fat, which, in the fattening process, insinuates itself into the interior vesicles of the muscular fibres. He takes notice of a comparative experiment of fattening large and small oxen upon turnip and hay; in course of which, it was found, that each large ox ate double of what was consumed by the small one. When both were sold, the large oxen fetched 12l, each of price, and each pair of small ones 16l.

Mr

Mr Loch of Rachan speaks highly of a breed of cows he has got from Kyle, recommended in Colonel Fullarton's Report of Ayrshire.

Mr Stewart has a breed at Esheids, picked up in Berwickshire. Two kinds of them he wishes to propagate as stock: The one, of a dark red colour; face, breast and legs, white; horns small, long, and well set; bones small for their weight; body round; legs short, but well set on them: The other, of a paler red colour, with more of white; the bones small also, but not so handsomely set, nor the horns so handsome. The first, are the most kindly feeders; the second, the best milkers: the first, when fattened, of superior beef; the second, yielding most tallow.

It seems probable, that a great range of well observed experience is still necessary, before any thing very decisive can be pronounced, as to the indications in black cattle, that prognosticate superiority, as to the distinct properties of feeding or milking.

SECT. II.—*Sheep.*

There seems to be no clear tradition, nor even plausible conjecture, as to *when*, or *whence*, sheep were first introduced into this county, or whether the present breed are indigenous, or from another country. There is, indeed, an obscure tradition, that, previous to the introduction, or general prevalence of sheep in the parish of Tweedsmuir, the farmers in that parish paid their rents, by grazing, for hire, through Summer, the oxen then generally used by Lothian farmers for their Winter ploughing.

The native Tweeddale breed, which has continued the same as far back as memory or tradition extends, are all horned, with black faces, and black legs, and coarse wool. Their shape, to which alone attention has been paid in selecting the breeders, is compact, short-coupled, short-legged, round-bodied, with a rising forehead; in short, possessing those qualities, which, in every other species of animal, has hitherto

been considered as indicative of kindly feeding and easy keep*.

Sir John Sinclair, to whom his native country stands highly indebted on various accounts, has, seemingly with great propriety, recommended the Cheviot breed, as the best adapted of any known species of *fine-wooled sheep*, for high, bleak situations. They are in the course of being fairly tried in Tweeddale. Nothing, however, decisive can as yet be said in regard to the experiment.

They are hardy and vivacious, and no more liable to diseases or death, than our native kind; excepting, merely, in a severe season, at the time of lambing, when the lambs are more ready to perish from inclemency of weather, being more naked at the time of birth.

Their longer back, longer legs, lower forehead, and more lank shape, would indicate their being less kindly feeders: they are acknowledged, indeed, to be so, by those who are propagating that kind. It is pretty generally supposed, that the lands, which would suffice to maintain fifty scores of the native breed, would maintain only forty-five scores of the Cheviot; and that, not from superior weight of carcase, but mere unkindness in feeding.

There is no judging, as yet, of the profit from the sales; as the price has not, as yet, come to its level. Whilst the rage for this species of improvement continues, and till once the country is fully stocked, the ewe lambs draw a *pretium affectionis* for breeders; and even the wether lambs draw the same kind of price, on account of the wool, from those whose farms are adapted

* Mr Stewart, upon Mr Hay of Hayston's farms of Eshields, or Hayston, has brought our native breed to bring lambs in January; from the very plausible notion, that they will feed their lambs at less expence than any other breed yet known, in that very expensive season of keeping. The practice was once very profitable; but, as in all similar cases, the superior profit attracts capital to the same employment, till the profits are beat down, by competition, to the level of that obtained in other employments; the only difference remaining, being that which consists in natural advantages for the practice; for which, proportional rent must be paid against a new lease.

adapted for carrying on this kind of stock sheep. Meanwhile, an adequate price is not obtained from the Edinburgh butcher, for the skins and wool of the lambs, or old sheep disposed of to him; because he contracts with a dealer, through the season, for the skins of all the sheep he shall kill, at an average price; and he cannot, as yet, say before-hand, what number of fine skins he shall have in his parcel. He reckons the carcase inferior, both of lamb and mutton.

Fine wool, like every other article in commerce, must fall in price, as it becomes less scarce. There is, too, no reason, in the nature of the thing, why such as can afford it, should not give a proportionably higher price for delicate mutton, as for fine wool; it being just as reasonable to wish to be delicately fed, as to be softly clothed: Nor is it perfectly ascertained, that the mutton of the Cheviot breed comes up to the acknowledged delicacy of that of our native breed.

It remains, then, as yet, to be determined, by fair experiment, whether, in point of profit, the acknowledged superiority of the black-faced breed, in regard to feeding and carcase, and the less risk of death of lambs, shall surpass, or equal, or come short of, the acknowledged superiority of the Cheviot breed, in regard to wool. The experiment will be completely tried; and, if successful, the change of breed will be as completely effected: For the Tweeddale farmers are certainly as much set upon their own interest as any other class of men, when, only, it is clearly ascertained to them where their interest lies.

In regard to agricultural improvements, the higher ranks of society are ready to display too much of the spirit which animates the democrats of the day; their notions of improvement, hastily embraced from mere partial views of the subject, must be instantly adopted, and every ancient system must be overturned, to make way for them; their abstract reasonings, *à priori*, must be implicitly confided in; past experience is unworthy of attention, and future experience not worth waiting for; innovation is reform; a cautious renitency against change, is the mark of a vulgar soul, nurtured in prejudice, incapable

of mental energy, and of directing itself by the polarity of reason *. The same zeal leads, in both instances, to the same disregard of veracity; and the report of an infuriated reforming gentleman farmer, as to agricultural facts, deserves as little credit, as that of a democrat in regard to public events.

In gentlemens parks, different kinds of fine-wooled sheep have been kept; particularly the Bakewell breed, with long combing wool: The South Down have, of late, been adopted, by Sir James and Sir George Montgomery, at Whim and Magbiehill; and by the Countess Dowager of Dundonald, at Lamancha. Their wool, though less in quantity, may, from superior price, render them equally profitable with the Bakewell; while their smaller size would indicate their flesh to be more delicate, though not comparable to that of the black-faced breed.

The idea which has been suggested, of dividing, universally through this county, the high lying coarse pasture from the lower and more fine, appropriating the former to the coarser wooled, and more easily kept breeds, and the latter to the less kindly feeding, but finer wooled, would be found inadmissible; the coarse-wooled kinds requiring lower pasture for Winter. Even where old widders (the hardiest of all sheep) are kept, there must be varieties of pasture, to suit the changes of season.

The period of gestation, with sheep, being twenty-one weeks, the general term of the admission of the tups to the ewes is the 22d November; so as that the lambing may commence by the 18th of April. In lower situations, where the grass springs earlier, the tup is admitted perhaps ten days sooner. Excepting

* Mr Chatto of Mainhouse, near Kelso, at one time, followed farming as a profession. When he commenced practice, *straight ridges* were the order of the day; every one was branded, as prejudiced to antiquated absurd custom, who had not straight ridges, at all events: He, too, therefore had his ridges straightened. He has assured me, however, that of all other errors in farming, he never so heartily repented of any one, as of straightening ridges in wet land; the former high crowns, now levelled, remaining for years perfectly barren; and the old furrows, now filled up, being converted into mire.

ing in two or three very high-lying farms, the tup is admitted to the gimmers, as well as to the older ewes. According to the poverty or richness of the pasture, and consequent more enlarged, or more circumscribed spreading of the sheep in their feeding, one tup suffices for forty, or for fifty ewes: And no more than what are necessary are kept of such an unprofitable stock. An enclosure would seem highly necessary in every sheep farm, in which to confine the tups for some weeks, previous to their admission to the ewes, in order to supersede the awkward contrivance of a cloth sewed over their bellies, which, though it prevents the premature impregnation of the ewes, does not prevent exhaustion—not to mention the excoriating effect of the confinement of the urine.

The lambs intended for wedders, are castrated as late as can be hazarded, that they may show better in the forehand, and *in the horn**; but early enough to avoid the great Summer's heats, which would render the operation dangerous: The usual season is some time in June. Thunder or frost, immediately after the operation, are both highly dangerous. The mode of operating is this: One person, commonly a maid-servant, holds up the lamb, with its back against the holder's breast; the operator, standing before the lamb, cuts off a part of the *scrotum* with a sharp knife, then squeezing out the testicles, he catches them betwixt his fore-teeth, and draws them away, with all their vessels attached to them.

Lambs are not shorn till the second July from their being lambed.

The

* It seems odd, that castration should produce such opposite effects in the bull and the ram, increasing the growth of horn in the former, and diminishing it in the latter. This is one, of various instances, in which analogy does not hold. We must have recourse to analogical reasoning, in subjects inaccessible to experience: It is, however, idle to rest upon analogy, where we have access to confirm or annul the conclusion by experiment. That like events shall take place in like circumstances, is the fundamental principle of all reasoning, as to cause and effect; but circumstances will appear alike, upon a superficial view, where a wide difference may be discerned upon more minute examination.

The breeding ewes are cast off at the ages of four, five, or six years; requiring, proportionally, the retention of a greater or less number of lambs, annually, to keep up the stock. Sometimes particular ewes will shew symptoms of failure more early, or will retain their vigour longer than any of these allotted periods: Their state is examined once a year, and is judged of by the appearance of their eyes, and the condition of their teeth, when those to be cast off are distinguished by some visible mark of *keel* (an iron ore which makes a red mark) or of tar. It is judged best to cast them while yet in full vigour, as they draw the better price. From the retained name of *crocks*, or decrept, the old practice had been different.

The sheep are all *smear*ed, or salved, at Martinmas, with a mixture of tar and butter: twelve Scots pints (twenty-four English quarts) of Norway tar, with one and a quarter stones (16 lb. of 22 oz. going to the stone) of Orkney butter, suffice for fifty lambs, or for sixty smeared for the second time: The same tar, with a stone and an half of butter, suffice for eighty older sheep. The young sheep require more tar, in proportion, in order to kill the vermin, to which they are more subject. Smearing is farther judged necessary to keep the wool in better quality, and in greater quantity; as, also, for a defence against cold and wet. It, no doubt, discolours the wool; and the reprobation of this long-constituted practice, furnishes a theme for declamation to our ignorant, inexperienced, revolutionary, reforming farmers*.

About the beginning, or towards the middle of July, the lambs, intended for holding stock, are weaned; when they receive

* Mr Loch of Raehan observes, that a smear, which shall, at once, shoot the rain, kill vermin, and defend the wool from the withering effect of weather without discolouring it, seems to be, hitherto, a *desideratum* in sheep farming. He proposes a smear composed of butter, train oil, and turpentine.

He informs me, that, ten or twelve years ago, on observing a recommendation to that effect from the Wool Society, he clothed sixteen of his flock, from the neck to the tail, with cercloths of a foot in breadth, as a substitute for smearing: But, at shearing time, the wool below the cloths was so padded and glued together, by the viscid clammy perspiration from the animals body, as to be good for nothing.

ceive the artificial marks to distinguish to whom they belong ; which are, the farmer's initial, stamped upon their nose with a hot iron, provincially designed *the birn* ; and also marks cut into the ear with a knife, designed *lug mark*. *Head mark*, or, in other words, that characteristic of individuality stamped by the hand of Nature upon every individual of her numerous progeny (and which we learn so readily to discern, in all those species with which we are most familiarly conversant) is, however, esteemed, by every sheep farmer, as the most certain and unequivocal mark of the identity of a sheep : It is a mark with which no coincidence can take place (as in artificial ones), through either accident or purpose. An intelligent shepherd, whose perceptions are sharpened by habitual attention, can readily distinguish every individual of his flock, independent of any artificial mark ; just as he could recognize a fellow servant, upon personal acquaintance, whether he were dressed in a long, or short, or black, or white coat, or wore no coat at all. A person, remarkable for his quickness in distinguishing sheep, has been known, for a wager, to put threecore of ewes and lambs, of a flock he had never before seen, all higgledy-piggledy, into a house, and immediately to go in himself, and to turn them all out one by one ; first, a ewe, and then *her own lamb*, without committing a single mistake ; although the only means required by him, to enable him to distinguish so accurately, was to be allowed to observe them for half an hour quietly feeding, each ewe with her lamb alongside of her, previous to their being driven into the house*.

After

* It is exceedingly probable that the individual, in every species of animals, is perfectly distinguished from every other individual of the same species, by characteristic marks of individuality : How else, indeed, could mates distinguish each other at the pairing season ? But, from want of habitual and minute attention, the general resemblance alone strikes us ; whilst the minute differences escape our observation. To one unaccustomed to sheep, a Tweeddale flock (all of one make of body, and same texture of wool, all horned, with black faces and legs) would, upon a cursory view, appear as perfectly alike, and equally undistinguishable from one another, as a flock of crows. I question not but a crow herd would soon learn to distinguish individuals as perfectly as a shepherd. I recollect having some-
where

After rearing the lambs, the ewes were wont to be milked for six or seven, or even to the length of ten weeks. The practice is, in some farms, totally discontinued, to prevent weakening the ewes; where continued, it is used in moderation.

The lambs, for holding stock, immediately upon their being weaned, were in use to be sent, often to great distances, to be *summered* (as it is called) for six weeks, upon barren heathy land, in some cold, bleak situation; from a notion that such rugged treatment had a tendency to harden their constitution. Very violent transitions of this nature, from the most palatable and nutritious of food, the mother's milk, to such unpalatable, innutritious, and hardly digestible pasture, are, however, now generally condemned. The lambs are indeed sent to the higher parts of the farm, whose grasses are, at this season, in their highest state of perfection; care, however, is taken that their food shall be both copious and palatable. Meanwhile, some better and lower lying pasture is saved (*hained*) for them, for their Winter's provision: what is thus hained, is called the *hog fence*. Formerly, the hog fence was reserved exclusively for the lambs, which were admitted to it at Lammas; but, from the observation made in farms so small, as not to admit separation of hirsels, that the hogs were much less subject to the *sickness* (a disease often extremely fatal to hogs), it has, of late, come pretty much into practice, to allow the old sheep and the hogs to pasture indiscriminately together.

The earliest springing food of sheep, is a plant, bearing a white cotton head upon its seed-stalk, vulgarly designed *Moff-crop*: It begins to spring about Candlemas, if the weather proves fresh: It grows in mosses. *Draw-ling* succeeds it, in the month of March; so designed, because the sheep seize, tenderly,

where met with a remark, that a painter, in drawing a foreigner, is much more apt to hit off the general national appearance, than the individual resemblance. For this reason, county reports might be best made up from the reports of two, a foreigner and a native; the first for the general features, the latter for minute distinctions.

tenderly, with their teeth, the part of the plant appearing above ground; and, instead of biting it over, they draw up a long white part of the plant from a socket under ground. The latest springing plant is *heath*, which yields its flower to the bee, after all other flowers have decayed. A proper succession of earlier and later springing heath, is a matter of essential consequence in most Tweeddale sheep farms, (and indeed in all sheep districts where heath abounds), in order that the range of this species of food, in its most eatable state, may extend through the greatest possible portion of the season. This succession is obtained by burning a certain portion of heath, each Spring, before the rising of the sap; so as to have heath upon the farm, of one, two, three, or four years growth from the root. As in all plants of a shrubby nature, the heath plants most recent from the root, send forth their shoots most early in Spring, and the oldest later in the season. When the game laws were, of late, altered, by protracting the commencement of partridge shooting, in favour of late corns, it is pity but the legal season for *muirburn* had also been prolonged, in favour of the sheep. There is not one year in ten, in which the proper quantity of heath can be burnt within the time limited by law, which extends from Michaelmas to the end of March: Burning in Winter has been found destructive of the heath, in some instances of trial. Old heath, or whins, or broom, are the great resource of sheep in Winter snow storms, as they keep the snow afloat, and allow the sheep to come to the grass growing about their roots. I have never heard of any attempt to cultivate any of these plants for sheep, but whin and broom.

Prejudices continued long in Tweeddale against artificial shelters and Winter feeding for sheep, upon supposition that they rendered them too lazy to dig the snow with their feet, in order to come at their natural food: Both these prejudices have nearly vanished, being expelled by experience. Trees are, in various instances, planted for shelters. It would be for the interest of every proprietor of sheep farms, to encourage

rage the farmer to rear shelter of trees, by allowing him the weedings of the plantation, and becoming bound to pay the farmer, at the rate of perhaps 8d. or 10d. apiece for every tree left standing at specified distances, at the expiry of his lease : Such an interest communicated to the farmer, would give the most effectual security for the protection of the trees. Shelters are also procured by buildings, enclosing a square open area in the middle, furnished with shades on every side. *Stells* (that is, circular spaces of area, proportioned to the size of the flock, enclosed by a five or six feet wall of stone or sod, without any roof) were the primeval shelters invented by our forefathers : The circular figure of the building causes the drifting wind, in snow storms, to wheel round it, without rising over it, and depositing the snow in the calm region within. The sheep are fed, in Winter storms, with such provision as can be procured, under the trees, in the shades, and within the circles : Even where no feeding is administered, much advantage results to the animals from mere defence against the weather ; and they are much the more alert in searching for natural food, so soon as the storm ceases. The mode of acting of the sheep, gives a pretty certain indication of the weather to be expected : Upon the near approach of a snow storm, those accustomed to shelters, are observed to make for their shelter : Upon the near approach of thaw, their presentiment leads them to be less industrious in digging the snow for food, as if conscious that such labour was no longer necessary.

When snow drift unexpectedly arises, and the depth of snow on the grounds prevents the possibility of driving the sheep to shelter, the herdsmen gather them together in a body, and keep them in constant motion, that they may tread down the snow as it falls, and may not be whelmed up by it. The natural shelters are the leeward sides of *hills of steep declivity* (or *strait fields*) ; a calm is formed immediately under their brow, where the drifted snow is deposited and accumulated, whilst the sheep rest, unmolested by it, farther down the hill.

When

When thaw comes, the sheep are carefully guarded against resting upon these *biolds*, where they formerly found shelter; as the heat of the earth, melting the under surface of the accumulated snow under the brow of the hill, causes the wreath (called, from its figure, a *combed wreath*) to slide down in a body, like an *avalanche* in the Alps, crushing to pieces every thing it meets in its course; the very weight of the wreath, when long accumulated by drift-winds blowing from the same quarter, exposes the sheep to the same risk, in their *biolds*, even in time of frost.

The proper *hirseling* and *berding* of the sheep, in classing them into distinct flocks or *hirsels*, and in allocating to each flock its proper walk for the different seasons of the year, are matters much attended to. A proper management in these respects, is held as the distinctive mark of superiority in sheep farming.

The principles of *hirseling* are, to class into separate flocks such sheep as are endowed with different abilities of searching for food; and to have all that are in one flock, as nearly as possible, upon a par, in this respect. For instance, ewes far gone with lamb, or suckling their lambs, must not be classed with sheep unclogged with such incumbrances, who would always get the start of them in running to the best bites. Hogs, too, should be kept separate from the older sheep, who would intimidate them; and must also be provided, if possible, with more delicate and more plentiful food; though, as already observed, this advantage to the hogs is now beginning to be in some measure relinquished, on account of the diminution of the risk of their death resulting from their pasturing in common with older sheep—whether this diminution of risk arises from prevention of over eating, or is owing also to some other undiscovered cause.

The principles of *berding* are, to allocate, to each particular flock, separate walks upon the farm for each season of the year; so as that all the different kinds of herbage may be completely used, in their respective proper season, and a sufficien-

cy be left, in a proper eatable state, for Winter provision, after all fresh springing of grafs is over*.

Such are the general principles kept in view, in regard to hirseling and herding: Their proper practical application depends upon professional skill; or may be necessarily determined by the peculiar circumstances of the farm, which may render it necessary to be contented merely with what is *practicable*, instead of what would be *more eligible*. In very small sheep farms, hirseling cannot be attended to, the minuteness of each distinct hirsfel, into which they must fall to be classed, being unable to afford the expence of separate herdsmen.

It

* Many intelligent farmers are of opinion, that the whole of hirseling and herding resolves itself into the simple principles following, viz. to have no more stock upon the farm, than what can be abundantly supplied with food; to keep the whole pasture in its highest eatable state, by shifting the flocks gradually over the whole in succession, so as that none of it shall have sprung to seed-stalk, or shall have withered or rotted, before the sheep are admitted to it; and, that after having eaten up what they have been last admitted to, they shall always have another space in readiness, which shall have lain vacant for perhaps three weeks, and no more than three weeks, for freshening and taking on a new growth; and, that as to Winter provision of grafs, after all springing of grafs has ceased, it is in vain to think of supplying this, by reserving a part, till it has grown withered, rotten, and uneatable; for that said reservation would have done them more good by putting it previously into their bellies and upon their backs, when it afforded nourishing food, than by presenting it to them in Winter, when unpalatable, innutritive, and unwholesome. The dependence of sheep against suffering in the unproductive months of Winter, must be chiefly fought in their good habit of body before Winter sets in; as then they must depend, for immediate food, upon such scanty picking as can be got from heath, whins, or hardy coarse grasses, which they rejected in Summer, and which stand through Winter; and hay in snow storms.

They account nothing more necessary, in regard to separation into distinct hirsfels, than to keep the lambs, after weaning, upon the lower part of the pasture, from August till December; after which, all go mixed over every part of the farm till March, when the heavy ewes are separated from the barren sheep, and feed, with their lambs, upon the lower pasture, till the time that this pasture is again set apart for the new-weaned lambs. They judge, that more depends, in prevention of sickness, upon the grafs being always in an eatable state, than upon mixing the old with the young sheep upon the bog fence. Where a breeding farm sells weider hogs, the heavy ewes are worst off in Spring, the hogs getting the low grounds to fit them sooner for the market.

It is a fact ascertained, that fat sheep, from farms of different qualities in Tweeddale, shall appear equally fat to the handling of the butcher; yet the one kind shall yield perhaps one third more of tallow, in proportion to weight of carcase, than the other kind. Here, the locality of the deposition of the fat depends upon the pasture, and not the breed. May there not be suspicion of quackery, in the reports of breeders, as to the propensity of peculiar breeds to deposit fat on particular quarters?

SECT. III.—*Horses compared to Oxen.*

WHERE arable farms are of sufficient extent to admit of subdivision of labour among the labouring cattle; so as that a sufficiency of heavy, slow work, requiring mere strength and steadiness, could be entirely appropriated to one class; whilst another class could always be employed in work requiring chiefly agility and expedition; it would then, evidently, be advantageous to keep two distinct sets of cattle, for these distinct sets of operations. But as almost none of the Tweeddale farms are of such extent as to admit of this distinct appropriation of different kinds of labour, cattle must be kept which will equally answer all kinds of labour. In this view, the horse will be found a much more universal animal than the ox: and the horses fittest for Tweeddale, must be such as possess a considerable degree both of strength and of mettle.

The breed of horses has been considerably improved, since the introduction of two-horse ploughs.

Oxen, once universally used in all kinds of tith, are now as universally laid aside; a fact clearly decisive of the inutility of using oxen for labour. Could the farmer, by using oxen instead of horses, send more produce to market of beef or corns from his farm, would any thing else be necessary to induce him to adopt the change? An interest may not be pursued when it hath never been clearly seen; but nothing will induce the dereliction of an interest, already seen and reaped, but the discovery of a superior interest arising from a different management.

The substitution of oxen for horses in labour, is, nevertheless, the theme of popular declamation; and it would not be at all surprising, if some of the wise city committees, sitting in profound investigation of the causes of the high prices of provisions, should bethink themselves of applying to the Legislature to enforce this substitution by compulsion. We would rather recommend it to them, to get over their prejudice against the use of horses flesh as food: No description of pasturing animal will take on flesh more speedily than the horse; and, if his flesh should become palatable, he would be, in this respect also, much more œconomically kept than the ox. We have heard of dogs having been served up at table, in this country, after the manner of Otaheite: It would be much more patriotic, to introduce the Tartar fashion, of eating old horses well fattened: Indeed, after overcoming the repugnance arising from the hideous and disgusting appearance of that undistinguishingly voracious and scrophulous-looking animal, the slow, repugnance to the flesh of horses would appear a mere prejudice of education—like the prejudice against potatoes entertained, according to Count Rumford, by the Bavarians, which obliged him to introduce them by stealth, as an article of food, into the poors-house at Munich.

SECT. IV.—*Hogs.*

SWINE are kept at corn-mills, and upon the offal of dairy farms: There is a prejudice against the use of their flesh, which is daily giving way.

SECT. V.—*Rabbits.*

THEY are found wild in the sand-hills of Linton parish; sometimes kept tame in houses; but are not an article in commerce. Some of the sand-hills just mentioned, might probably be converted, with advantage, into warrens.

SECT.

SECT. VI.—*Poultry.*

THEY are imposed sometimes as kind rent. The town of Edinburgh seems not, as yet, sufficiently rich to afford such a price for poultry, as would render it profitable to apply the whole produce of a farm to the rearing of them as its staple article of sale. Those sold to Edinburgh, are, therefore, only in such quantity as can be reared from the mere offals of the farmers barn-yards; or as are foolishly imposed beyond this extent in kind rent.

SECT. VII.—*Pigeons.*

THERE are few pigeon-houses, and, I believe, none that yield rent. It is a general complaint, that they do not thrive; which is, upon the whole, no loss; the farmer suffering the loss from the privileged depredations of this protected animal.

SECT. VIII.—*Bees.*

MUCH, of late, has been said of their possible product; and they are probably not so much attended to, in Tweeddale, as they deserve. If the country, however, were stocked with them to the utmost possible extent, it might be questionable, whether the diminution in produce of beef, mutton, wool, hides, and tallow, from the impoverishment of the pasture, would not more than compensate the return in value, from the increased production of honey and of wax. Were the depredations of the bee confined to the flowers alone, which are unpalatable to pasturing animals, from the wise provision of Nature for the preservation and propagation of feeds*, the
range

* Mr Loch of Rachan, in his letter to me, incidentally takes notice of this wise arrangement of the instinct of pasturing animals. He observes, that they will hardly touch the feed-stalks of plants, as if conscious of the consequences; but
that,

range of the bee would less interfere with the pasture of other animals: But the bee seems equally fond of the rich exudations from both buds and leaves; the abstraction of which may probably leave the plant more barren of the proper nourishment of cattle.

The improvement of agriculture, from thinning the number of weeds producing their flowers and feeds at various seasons of the year, has a tendency to diminish the range of food, both for game animals and for bees: The number of the former has, accordingly, been observed to be diminished; and, by like reason, the land may have been rendered incapable of supporting such numbers of the latter: The same reason may account for the want of thriving in pigeon-houses.

that, when plants are cut and given to them in this state, they will readily eat what they would otherwise have rejected; as if conscious, that the same reason for refraining, now, no longer subsisted.

As reasoning of their own does not surely lead the beasts to such wise practical conclusions, the regulation of their instinct may certainly, not unreasonably, be ascribed to a Supreme and Beneficent Intelligence, that created, and that governs the universe—a doctrine which, it is to be hoped, we may be allowed to maintain, without imputation of folly; whatever may be decreed by any pragmatical, self-sufficient Assembly concerning it; whether by the *appel nominal*, or the reckoning of their noses; or whether by *acclamation simple*, or the strength of their vociferation. (Written in 1796.)

TABLE

TABLE of SHEEP, BLACK CATTLE, and HORSES, in TWEEDDALE.

The Numbers from the Statistical Account, supplied from equally good information, where deficient. There is joined, an account of the horses, as in 1797, obligingly communicated by Mr Brunton, County-Surveyor.

The acres in each parish are from Armstrong: As he says he converted them at 700 to the mile, I have reduced them to the proportion of 640.

Names of Parishes.	Contents in Acres English.	From Sir John Sinclair's Statistical Accounts.			Workinghorses.			Total horses.
		No. of Sheep	Cows	Horses	Liab. in tax.	Not li-able in tax.	Saddle-horses.	
Linton	25,472	10,000	460	130	89	10	11	110
Newlands	16,604	3,000	700	230	133	13	23	169
Kilbucho	6,135	4,000	140	50	41	9	10	60
Kirkurd	6,053	2,000	200	70	33	11	12	56
Lyne & Meggot	16,988	10,500	118	33	15	—	5	20
Skirling	2,633	4,000	150	75	37	7	4	48
Broughton	4,261	2,200	200	80	39	—	4	43
Mannor	16,558	8,700	190	85	46	7	9	62
Drummelzier	21,714	5,000	300	50	29	1	10	40
Glenholm	8,283	5,000	150	60	31	3	6	40
Traquair	15,808	10,000	200	98	68	12	16	96
Peebles	16,649	8,000	500	200	108	26	20	154
Tweedsmuir	21,376	15,000	80	35	11	—	3	14
Stobo	11,456	5,000	190	81	29	6	5	40
Eddleitone	19,428	8,400	620	193	94	15	12	121
Inverleithan	20,361	15,000*	180	92	37	11	11	59
Totals	229,779	115,800	4378	1562	840	131	161	1132

* About 3,000 of this number of sheep are in that part of this parish which lies in the contiguous county of Selkirk; probably also 6 horses, and 12 milk cows.

CHAP. XIV.

RURAL OECONOMY.

SECT. I.—*Labour.*

JUSTICES of the Peace have powers vested in them for the regulation of wages, as also of the price of provisions. They, however, very wisely, refrain from interfering in matters which can alone be properly regulated by the course of the market.

The demand for labour, as for every other marketable article, necessarily varies according to circumstances; and the price must, of necessity, be regulated by the proportion betwixt the existing quantity of the article and the demand. Where capital, and profitable employment for capital, abound, in proportion to the population, the demand for, and consequent reward of labour, will, necessarily, rise to the highest rate; but the reverse must, as necessarily, ensue, upon the opposite supposition. If, in the former case, it should be attempted to lower the wages of labour below what the demand can afford, the competition of employers, possessed of capital, would lead them to break through, or evade, all such regulations. If, in the latter case, it should be attempted to raise wages above what the demand can allow, the competition of labourers for employment would beat them down, avowedly

or

or secretly, to their natural market price *. And the only effect of such nugatory regulations, must issue in the occasioning of more or less embarrassment, in the contrivance of evasions to escape the penalties of their contravention. (*See Note F, at the end of the Report.*)

The unremitting effort of the generality of individuals to better their circumstances, occasions the accumulation of capital; and the wages of labour rise in proportion to this accumulation. The increasing of wages tends to diminish the further accumulation of capital; were it not that the more easy circumstances of the labourer encourage marriage and population, and, by multiplying the number of labourers, tend to beat down their wages, through their competition for employment. Acting and re-acting, thus, mutually, upon each other, alternately, as cause and effect, accumulation of capital, and increase of population, would proceed, hand in hand, in an interminable progression; were it not that external and internal war (a state so natural to man, as to have made the art of mutual destruction furnish, at all times, and everywhere, the business

* Indeed, in this way alone, could the existing capital in employment be equally diffused among the labourers of a country, so as that each should receive his proper share of it, in proportion to his willingness and ability to work; if it were possible to carry into effect any regulations raising wages to an higher rate, the infallible consequence must be, that the distribution of the aforesaid capital would be confined to a smaller number of labourers, and that the remainder could get no employment, and must therefore subsist on charity. But if the charity comes exclusively from the pockets of those possessed of capital, the capital, thus shortened, is able to employ still fewer at the regulated rate: If it comes, in part, from the employed labourers, it is to them all one whether this diminution of wages arises from their giving it in charity to the idle, or from its being taken from them through the competition of the industrious. In the reign of Sansculotism in France, it might have been thought, that the raising the wages of labour would have been the primary object of Government; and yet, during the height of its prevalence, the excessive low rate of wages, compared to that of Britain, was then held out, in the French Assemblies, as a ground of confidence, that France would soon carry off the manufactures of Britain. In fact, the capital of that country was so exhausted by confiscation and requisition, to support the profligacy of her tyrants, and the mad schemes of her Government, that funds did not exist to support labour, except at the very lowest rate of recompense.

finest of a particular profession—a profession, too, whose relative virtues have ever been held in the highest celebrity) may ever, at short intervals, be expected to intervene, to the thinning of population, and the perdition of capital: A view of human nature, most lamentable, but, at same time, ludicrous; and which will ever be found to correspond to reality, so long as man continues what he is—a *reasoning*, rather more than a *rational animal*—in the cool speculations of the closet, *just*; but, *incapable of acting up to the maxims of justice*, so soon as his passions arouse him to action. Or, shall we esteem the acquisition of the warlike virtues cheaply purchased, at the premature expence of a few lives, through glorious toil and honourable wounds; which, otherwise, might have quietly terminated in the suffocation of defluxion? Or shall we prefer the poets golden age of innocence and inactivity, when men had little else to do, but to bask in the sun?

The rate of wages experienced a sad reverse, from the deficiency of funds for the employment of labour, through the scarcity of the crops 1799 and 1800. Little difference took place in the nominal or money rate of day's labour; but there was less employment; and employers preferred giving the highest accustomed rate of money wage, without furnishing victuals in the house. The great competition for the privilege of *eating at discretion, at the risk of the master, without regard to the price of victuals*, caused a prodigious declension (even to the amount of one half) in the money wage of servants to eat in the master's house. Since the return of plenty, from the abundant crop of 1801, wages are again rising; though they have not yet attained (by perhaps a fourth) the existing rate previous to the years of scarcity.

Before that period, the yearly money wage of a good ploughman, getting his victuals, lodging, and washing, in the master's house, had, within six or eight years, risen from six or seven to ten or twelve pounds. If he was married, he had, perhaps, twenty shillings less of money wage, and, in lieu of victuals, 6½ bolls of oat meal, and the Summer's and Winter's
maintenance

maintenance of a cow for *kitchen* *; or, in place of the cow's maintenance, ninepence or tenpence, weekly, for that purpose: The master furnished him also with a house, with carriage of fuel, and as much land for potatoes, beer, or lint, as the dung from his cow and ashes would manure; the ploughman's wife, in recompense of these privileges, assisting the master, without any wage but her victuals, in time of hay and corn harvest. The smallness of Tweeddale arable farms, admitting little of subdivision of labour, it is generally necessary that the ploughman should be fit for all work, as sowing, mowing, stack-building, thrashing, &c.

The money wages of a female country servant, living in the master's house, had arisen to twenty-five, or even thirty-five shillings, for the Winter half year; and, in Summer, to forty, or (where there was long ewe milking) to fifty-six shillings. Some of the most robust young women do not engage themselves for the half year after Whitsunday, that they may have the opportunity of gaining two distinct fees, the one for ewe milking, and the other subsequently for harvest work.

Ewe milking (now more and more difused) commenced formerly about the latter end of June; the lambs being more early weaned, that the more cheese might be obtained: It seldom, now, commences till the beginning or middle of July; continuing, in some few places, nine weeks, but more generally confined to six. The farmer needs additional female servants for the ewe milking. Six or seven scores of ewes are allotted to each milker. The milking is a severe service: Very little time can be allotted to sleep during the night, as the ewes must be milked over night, when confined to the fold, and in the morning, before they are again put out to pasture; and the time of their detention in the fold is shortened as much as possible, that they may have time to feed through the day. As the ewe milkers must, also, milk the cows upon the farm, and perform the task of spinning, each, ten cuts of worsted from
roved

* *Kitchen* (in Latin, *obsonium*) signifies any thing eaten along with bread. There is no English word equivalent.

roved wool daily, they find but little time for sleep in the day time. The milking fold is an inclosure of sod dike, with whins inserted below the coping sod, to prevent the ewes from breaking over it. At one side of the dike, is erected a pen (*bought*), by sod dike, or paling of wood, inclosing an oblong square, open at one end, and of a breadth to admit all the milkers standing side by side. Into this bought, as many ewes as it can contain are drove in at a time; when the milkers entering, prevent the ewes from getting out, and immediately proceed to business: Each milker seizes the ewe nearest to her by the haunches, drawing it backwards till it stands with its hinder legs straddling across the milking pail; she then, with both hands, seizes upon the teats, and milks, by squeezing them betwixt the first joint of the thumb, bent in, and middle of the fore finger: when milked, the ewe is turned out behind her, the herd taking care that the milked ewes shall not mix with the unmilked, upon their escape from the bought. From the position of the ewe, whatever drops from her falls into the milking pail; the solid refuse is separated, by draining or deposition, but no chemical process is in use to separate the dilute; and probably the peculiar pungency of the cheese is partly owing to the salts in the urine. Before the sheep are shorn, the cheese is peculiarly dark in colour, and has a peculiar *haute gout*, from the sweat, or other matters from the wool (called *eik*), mixing with the milk: this is *cheese made under the wool*. In regard to sheeps milk cheese, as in regard to most other viands, it conduces little to the appetite of the guest to pry into the secrets of the kitchen. This cheese is in great request, and of high price, from its increasing scarcity; which will redress itself, when the price becomes so high as to render it advantageous to the farmer to sacrifice the animal's advantage to the increase of its cheese. When old, the cheese is accounted one of the best stomachics. The wage of ewe-milking amounts to about half a crown weekly, with board; the farmer's wife allowing, also, to each milker a piece of coarse cloth, called a *ewe-milker's brat*, to cover her before, to prevent her
clothes

clothes being spoiled by the tar and other filth adhering to the wool.

A woman shearer, hired through harvest, gets from twenty to twenty-five shillings, with board; a man, from twenty-five to thirty. When a track of wet weather seems set in, they are disbanded till the weather shall clear up: In wet mornings, or single wet days, they are detained at board, and employed in twisting ropes for binding on the coverings of the stacks. Days wages for shearing necessarily vary, more from the variety of demand for the work, than those of any other labour; women receiving from eight to fourteenpence, with victuals; and men from a shilling to twentypence. Shearers hired at a fixed sum for the whole harvest, wish to perform the most work in the least time, but are less careful as to the mode of execution; those hired by the day may more readily be made to perform the work with exactness, but have not the same interest in performing much: A mixture of both kinds seems preferred; the mutual example correcting the faulty tendencies on both sides.

Piece-work would always come most cheap, were it not for the risk of faulty execution, in cases where its mode cannot be specified in the bargain. Undertaken by the piece, fold dikes of sod cost threepence *per* rood of six Scots ells, running measure: Ditches, from eightpence to a shilling *per* rood, according to the size of ditch, and nature of the soil. Mowing of grass, from two to five shillings *per* Scots acre, according to the strength of crop, or its standing straight, or being warped by the wind. Thrashing, about sevenpence *per* boll, with victuals. A stout labourer, working by the piece, will earn from sixteen to twentypence a day, without victuals.

When victuals are furnished, days wages are, for mowing grass, from fourteen to sixteen pence: For more ordinary Summer's work, from tenpence to a shilling: For ordinary Winter's work, eightpence or ninepence. Womens ordinary wage for Summer's outwork, not of a pressing nature, like that of harvest, such as gathering weeds, hand-hoeing, &c. is fourpence with, or eightpence without victuals. There is very little a-

gricultural

gricultural employment for women in Winter. With victuals, a tailor's wage is tenpence: Other handicrafts, as in Mid-Lothian.

Ploughmen and shepherds are hired for a whole year; women servants half yearly, except such as reserve themselves for ewe-milking, and for harvest work. The old style is observed in the terms of entry to, and removal from service. Uniformity would, here, be eligible, as well as in weights and measures.

SECT. II.—*Provisions.*

To what has been observed on this subject, under the article of *Farm Houses and Cottages*, it may be added, that, in sheep farms, the sheep dying of disease are used as flesh meat, under the designation of *traik*.

SECT. III.—*Fuel.*

IN the highest lying parishes, near the sources of the waters, *peat* of moss is the only fuel used. The best peat, (being the most solid, black, lasting, and yielding the strongest heat), is that which is found in shallow beds of moss, lying generally upon a declivity: it is commonly not above fourteen or eighteen inches, or the length of a peat, in deepness, after removing the surface soil with the roots of the heath or ling growing on it, (called the *tirling of the moss*): As the digger stands upon the surface, and presses in the peat-spade with his foot, such peat is designed *foot-peat*. Other peat are procured from deeper flow mosses of various qualities; and as, in digging, a passage is made to drain the water from the bottom of the moss, and a perpendicular face of the moss laid bare, from which the digger, standing on the level of the bottom, digs the peat, by driving in the spade horizontally with his arms; this peat is, therefore, designed *breast-peat*. The peat-spade is furnished with a triangular cutting mouth, as also, with a cutting wing on the right side, both of well-tempered metal, to cut the half decayed wood found mixed with the moss; the wooden shaft terminates

nates at the end near the iron, in an oblong square shape, on which the peat rests when lifted up. The operator begins to the left, and works to the right. He begins by turning the spade back uppermost, that by its wing he may separate the one side of the first peat from the solid; reversing the spade, he at one push drives it in to the whole depth of the oblong part of the shaft, the wing cutting the second side of the peat. By a jerk of the shaft, the end of the peat breaks off at the point of the spade; it is raised up, and carefully turned off upon the ground; it is taken up by the women wheelers, (*hurlers*), who lay a number of them upon a wheelbarrow without sides, and lay them down, side by side, upon some contiguous dry ground. Two hurlers commonly suffice to spread the peat dug by one man. When the peat have become so hardened by the drought, that they will stand on end, they are placed on end three or four together, and leaning against each other; this is called *footing the peats*. After this comes the operation of *wind-rowing*, or the building them up in narrow heaps, or fragments of dikes; in which state they remain till carried home and put into a Winter stack, which is covered with sod to defend it from rain.

 CHAP. XV.

 POLITICAL OECONOMY, AS CONNECTED WITH, OR
 AFFECTING AGRICULTURE.

 SECT. I.—*Roads.*

THE landed proprietors of every county are, certainly, the class most fit to be intrusted with the management of the roads; which act upon the agricultural improvements, in which they are so nearly interested, like oil upon the wheels of a machine. They have most leisure; may be expected to have more enlarged views, and liberal sentiments; and are more habituated to bestow labour and pains upon subjects whence they derive no immediate pecuniary advantage: They are sometimes apt to be deficient in energy. In narrow counties, where all are more intimately connected, the public advantage is too ready to be sacrificed, in some degree, to mutual accommodation; which, when yielded to from facility, in one instance, is claimed in others upon the precedent. Instances are not wanting, in this county, of the public road, from this cause solely, being carried in a zig-zag direction, instead of the straight one; or over steep acclivities, instead of around them. It is well observed by the Rev. Mr Handyside, in his statistical account of the parish of Lyne in this county, ‘that the best mode of conducting the direction of roads would be, for the trustees of each county, to commit the direction of their roads to the determination of those of another county.’

Systems, beginning where nothing previous existed, are often more easily carried into the best effect, than the reformation of arrangements originally bad.

About

About the middle of last century, the time when the general views of the utility of good roads had reached this county, and made turnpike acts be applied for, the public road to the capital was eked up out of private roads, made chiefly to suit private convenience; and, of course, subjected to such deflections as might be expected, where private accommodation was the principal, and that of the public rather a by-view: They were narrow; they were often dressed up, like avenues or private approaches, with tall hedges and plantations of wood. From want of energy to require, or of disinterestedness to offer sacrifices of private convenience and advantage; or perhaps, too, from a doubt how far the inexperienced return from tolls could afford to pay indemnification of the private loss incurred, in breaking through existing inclosures, in order to give the public road its proper width and direction—From such reasons, it has happened, that the most public road of the county (the one leading from Edinburgh, by Noblehouse, to Moffat, Dumfries, and Carlisle) is, for about seven or eight miles of its course, so completely shaded by high walls, and hedges, and wood plantations (its breadth, also, often not exceeding 15 or 18 feet), that neither sun nor wind can find access to dry it: Repairs, more expensive than the return of the toll (though higher than any in the Lothians) can afford, are but barely sufficient, therefore, to prevent it from becoming an impassable, rotten bog; and every snow-drift chokes it up completely. A preposterous propensity seems, indeed, pretty prevalent, of placing wood plantations along the sides of public roads; though, surely, most proprietors need be at no loss to find other situations, where they might be of equal benefit as shelter, without detriment to the road, by overshadowing it, or to the traveller, by giving a lurking place to the robber.

The roads through Tweeddale are made, at an average, at about 8*ol.* *per* mile. Various schemes have been adopted as to upholding. In the upper district, where there is most repair, and most wear, from the constant heavy carriage of lead from Leadhills, an apparently economical mode was chosen, of letting the upholding to small occupiers of lands upon the road sides; who,

who, it was thought, might give the necessary repairs at *by-hours*: These *by-hours*, however, seldom occurred; the money was consumed by people, from whom it was impossible to recover it, and the roads neglected. They have, of late, been let to a professional undertaker at more expence, and probably with somewhat better effect.

The statute labour is commuted at eight shillings *per* 100l. Scots of valued rent; which the landed proprietors pay in to the county collector, along with their cess, having recourse upon their respective tenants.

Besides the roads marked upon the map, a road, from the Peebles road at the foot of Tarth water, carried over that water by a bridge, and running up the west side of Newlands water, to the Noblehouse road, and thence to the Linton road, would be of great utility in giving ready access to coal, lime, and freestone, to a considerable district of country lying below. Another road from Darnhall to Noblehouse Inn, connecting the Edinburgh roads by Peebles, and by Noblehouse, would open the coal, lime, and freestone of the county, to Eddlestone and Peebles parishes. A communication to West Lothian might be of use, by the pass of the Pentland-hills, named *Cauldstone-slap*, connecting the Linton Edinburgh road with that from Edinburgh to Ayrshire. An useful road has been lately set on foot, by subscription, from Traquair, fording Tweed, and carried up Leithan-water; opening a communication to the Lothian coal and lime, to the parishes of Traquair and Inverleithan.

In regard to all matters, that will naturally be undertaken through a sense of interest, by individual exertion, and at private risk, it is safe to leave them upon this footing, without Government interference. But though, in a certain degree, the committing of the management of the roads to the landed proprietors of the respective counties, wears the aspect of intrusting it to those who have the most interest in the proper execution of the trust, yet various considerations would indicate the propriety of the whole roads and tolls being placed under the immediate management of Government: For, granting that Government

vernment expenditure is always less economical than any other; still this disadvantage would be more than counterbalanced, from the advantage of employing the military, in time of peace, with very little expence above their ordinary pay. It might be expected, upon this system, that general views would more steadily prevail over partial considerations; and that the superplus of funds, from tolls upon roads of great recourse, might be applied to roads of less recourse, which the funds from their tolls cannot afford to make, or uphold, sufficiently. An inflexible arrangement of management would, however, need to be laid down, fenced by the same sacredness that guards the system of the sinking fund. The heightening of the tolls would be an obvious and easy mode of *taxation*, which, if regulated as at present, by *weight* of carriage, would fall heaviest on the poor.

SECT. II.—*Canals.*

FOR these the country is too mountainous, and its productions of too little value: None exist in fact, nor are in contemplation.

SECT. III. & IV.—*Fairs—Weekly Markets.*

THE Peebles Tuesday's weekly market formerly supplied the manufacturing west country with meal from the southern corn counties. The canal betwixt Forth and Clyde having opened the Lothians to the west country, there is now a very inconsiderable quantity of meal disposed of at Peebles market; the south country farmers, who frequented it, now carrying their corns to Dalkeith, and returning with coal or lime; for both of which they depend upon the Lothians. It is needless to take notice of fairs which exist now only in name, and where no business is done.

The following, I believe, is a very exact list of the fairs, in this and other counties, where Tweeddale farmers transact business.

FAIRS IN TWEEDDALE.

Town of Peebles.

1^{mo}, *Fastenfeven* fair. Held upon the first Tuesday of March, N. S. Ewes great with lamb are sold by character, without being shown. It is the great market for feed corns, sold by sample, or often by character; also the chief fair for servants, for the year, or half year, succeeding the ensuing Whitfunday.

2^{do}, *Beltyne* fair. Held second Wednesday of May, N. S. Stallions are shown; servants are hired; farm sales of outgoing tenants are advertised.

3^{do}, *Lamb* fair. Held last Tuesday of June, O. S. Lambs for holding, sold by character, without being shown; wool also by character; but, when Linton third market falls upon the succeeding day, the bargains are seldom completed till the parties have met again at that wool fair.

4^{to}, *St Andrew's* fair. Held last Tuesday of November, N. S.; called also *Siller* fair, because the chief or only business is, the payment of bargains upon credit from the preceding fairs.

Two other fairs are sometimes used as dates of payment in bills, though no fair is held, viz. *Ryte* fair, last Tuesday of October, N. S.; and *Hock* fair, first Tuesday of September, N. S.

Linton.

There were five markets, continuing week after week, upon Wednesdays: Most of the business is now transacted at two of them, viz.

Second Linton market. Held third Wednesday of June, O. S. Wedder and ewe hogs sold and delivered upon the market grounds; also a few dummonds and old tups; lambs for holding, sold by character. The sheep come to the market ground early on the Tuesday, and are generally all sold off that evening.

evening. This is the principal market for Tweeddale holding sheep.

Third Linton market. Held Wednesday the week following; though, as at the second, the business of selling the sheep is all transacted on the Tuesday evening. The Wednesday is the great market for coarse wool, of the black-faced or Linton breed; all sold by character; from Tweeddale, Upper Ward of Cyfeddale, part of Dumfriesshire, of Selkirkshire, and the hilly parts of the three Lothians. Shearers are hired for the ensuing harvest.

Skirling.

1mo, May fair. Held first Tuesday after the 26th of May, N. S. or upon that day of the month, when it falls on that day of the week. Yeild cows for grazing, with a few milk cows, are shown, sold, and delivered.

2do, June fair. Held first Wednesday of June, O. S. One of the greatest fairs in the south of Scotland for a show of working horses: The rate of this market generally determines the price through the season. A few milk cows.

3tio, Old Skirling fair. Held 4th September, O. S. or on the Monday after, when the day of the month falls upon Sabbath. A pretty extensive sale of horses; also of black cattle, partly fat, partly young, for holding.

Eddlestone.

Eddlestone fair. Held 25th September, O. S. or on Monday, if that day of the month falls on Sabbath. Chiefly wintering young black cattle; oxen for draught; and a few fat cattle. Servants hired for the half year succeeding ensuing Martinmas.

Broughton.

Broughton fair. Held nine days after Eddlestone fair, or on Monday, if the ninth day falls upon Sabbath. Cheese sold in wholesale by character. Servants hired for the Winter half year,

FAIRS IN MID-LOTHIAN.

House of Muir market. There are three, weekly, for ewes great with lamb, shewn, fold, and delivered upon the grounds : The only considerable one is held upon the last Monday of March, N. S.

FAIRS IN CLYDESDALE.

Carnwath.

1mo, *Midsummer* Fair. Held first Thursday of July, N. S. A great show of horses ; milk cows ; grazing cattle ; a few fat cattle.

2do, *Laurie's* (St Laurence's) Fair. Held second Wednesday of August, O. S. The sale is, of horses, of lambs for holding, and fat cattle.

Biggar.

1mo, *Midsummer* Fair. Held first Thursday of July, O. S. Lambs for holding ; a few milk cows ; a few horses.

2do, *Old Biggar* Fair. Held first Thursday of November, O. S. Fat black cattle, chiefly ; a few winterers ; rather more horses than at the former. Lint is also retailed, at least in such small quantities as may serve a family's Winter spinning.

Lanark.

St James's Fair. Held last Wednesday of July, O. S. A great market of lambs for holding ; probably, the greatest show, in the South of Scotland, of year old horses : These are bought generally to the West country, are worked very early, but gently, and well fed ; and are returned, when full grown, to the great Skirling horse market. Wool is retailed.

Besides the above fairs, a considerable number of Tweeddale hogs, and older sheep, are annually sold at the fair of *Stagfall Bank*, in England.

Lambs

Lambs for holding are also fold at *St Boswell's* fair, in Roxburghshire. Held 18th July, N. S.

Fat lamb is weekly fold in the Edinburgh market, through Summer, from the end of June till the end of September; also, crock ewes, fed upon grafs, or farther carried on upon turnip, from Martinmas till New-Year's Day. Butchers from Glasgow buy probably more of the black cattle, fed on turnip in this county, than the Edinburgh butchers, notwithstanding of the greater proximity of the latter; owing to the greater riches and population of that country of manufacturers.

A few black cattle, fat, or for feeding, are bought or sold at *All-Hallow-Fair* in November, in Edinburgh.

Such meal as is fold from that part of the county lying above Peebles, is sent westward to Biggar weekly Thursday's market. Meal-dealers in Kirkurd, Newlands, and Linton parishes, buy at Peebles, and transport to Biggar; and often buy grain at Leith, to be manufactured at our mills, and sent to Biggar. Oats, from the highest lands, ripened, or rather withered, to be fit for keeping, by the frost, which would betray themselves if made into meal, find a market in Edinburgh, for the use of horses.

No fiars of grain are struck for the county; the reference of price of beer is made to the Mid-Lothian fiars.

The borough of Peebles, as is probably the practice in more boroughs, claims a preference in its own weekly meal-market, and allows no stranger to purchase till the town is first served; a restriction which, like all such restrictions, has a tendency to discourage the resort of buyers and sellers. In the dearth of 1799, the Magistrates attempted to fix the price of meal; while it was rapidly rising, they would allow only last market day's price: As might have been foreseen, no meal came to market, but what was damaged, so as to be worth nothing more, elsewhere, than the town's allowed price. Whether through mere coincidence, or from causation, the influenza was more mortal at Peebles, than common in the country. Borough Magistrates must often adopt mobbishi measures, however contrary to their own conviction.

SECT. V.—*Commerce.*

EXCEPTING that in meal, already noticed, there is little other commerce, but mere retail trade.

SECT. VI.—*Manufactures.*

AN woollen manufactory was set on foot at Inverleithan, by Mr Brodie (better known by his extensive iron-works in Shropshire, and his ship hearths), who is a native of, and proprietor in the county: The house consists of four stories, containing all kinds of machinery, and driven by water. Cloths are made of all colours, from 27 to 30 inches in breadth, and (before the last great rise of wool) at from 1s. 6d. to 6s. *per* yard. The iron-works have been, of late, a so much more profitable concern, that the woollen has been less attended to.

It is surprising, that no manufactory of coarse woollen has been established at the village of Linton; where there is water to drive machinery of considerable weight, abundance of lime, freestone, coal, and peat; the distance from Edinburgh about 16 miles, and the access a turnpike road.

A Linton weaver, Alexander Alexander, has lately erected a manufacturing house, with water machinery, upon the North Esk, on the lands of Robert Brown Esq. of Newhall; he supplies several paper-mills with felts, made of the coarse Tweeddale wool; and proposes, as capital, and credit, and vent for the commodities, increase, to extend the manufacturing to that of serges, and such other stuffs, as coarse wool is adapted to.

A manufacturing house has very lately been fitted up at Peebles for narrow cloths: And, there, two or three individuals had occasionally done a little in the same line, in the intervals of their employment by customers; carpets and flannels, and some cotton goods, being manufactured upon the same system. Most of the looms in Tweeddale are, however, employed in working to private customers; though some constantly, and others occasionally, are employed in weaving li-

nens for the manufactories in Edinburgh, or cottons for those of Lanark or Glasgow. There are in Peebles a few stocking looms.

SECT. VII.—*Poor.*

A SOCIETY must have become rich, before it can make liberal provision for the supply of its poor.

In a society of savages, such as those of America—subsisting upon mere natural produce—by the chase, by fishing, or upon spontaneous fruits and roots—without appropriation or culture of the lands; without domestication of animals, which are persecuted in hunting, to the danger of extermination—an immense tract of territory is necessary to supply subsistence to a very inconsiderable tribe; which must be traversed, with the utmost exertion, by each individual, in search of the means of his own personal support. In such a state, where the most laborious exertions of each, in the maturity of strength, are often requisite to secure even a scanty personal subsistence, it is not to be expected, that proper provision can be made for those who are past their labour, or for those who have not attained to it: Accordingly, the universal provision for the aged is, to knock them in the head; unpromising infants are put to death, as an effectual mean of preventing them from becoming burdensome; and even those destined for preservation, are deserted in seasons of unsuccessful hunting, and turned over to the mercy of the wild beasts*. The imperious paramount calls of
self-

* Such is the happy state of savage liberty and equality, to which the disciples of the new philosophy of Rousseau would have us revert, by abandoning all the institutions of civilized and industrious society.—*See a sermon by the author, upon liberty and equality.*

The exposure of infants is allowed by law, also, in the highly cultivated empire of China. Among savages, the want of culture prevents the earth from supporting its full complement of population. In China, the population would seem to have increased to an extent beyond what the territory can support, under the highest degree of culture. War, famine, or pestilence, would seem necessary to the relief of China; if it cannot disburthen itself of its over population by colonization, to which its present maxims of Government would appear adverse.

self-preservation, steel the heart against the feelings of humanity, which it would be superfluous to indulge towards distresses, which there are no means of relieving. The admirer of the savage state may exclaim, ‘ If you find, there, no palaces, you will find as few hospitals :’ There can, indeed, exist no funds for the erection of either the one or the other : every exertion being required to ensure mere self-preservation, there is no leisure for the pursuits of either science or humanity.

The fundamental laws, ensuring relief to the poor, are those which ensure the acquisition of wealth—those which society must adopt, when man, relinquishing his state of savage liberty and equality, where all have like right to all, betakes himself to the cultivation of the earth, and the domestication of animals, from whence all civilization, implying leisure and security of subsistence, must originate. They are the laws of appropriation, the sources of never ceasing inequalities of condition : Laws which encourage industry, by holding out to the industrious, the secure prospect of reaping the fruits of his labour, in ascertaining to him the undisturbed personal possession and enjoyment of that subject, to which his industry has been attached, and in which it hath become inseparably inherent ; together with the power of transferring it to descendants, or other natural objects of his affection—a power indispensable to the excitation of an industry of farther prospect, than of mere siferent provision—essential to the accumulation of capital, and to the prevention of its dissipation, in the same lifetime in which it was created*.

Man was formed for action, and that the active talents of each might be called forth to exertion, every one’s particular interest is left to his own management : For, though man is also benevolent, a continued intermeddling interference in the concerns of others, would, to his own consciousness, as well as to his neighbour’s feelings, appear the height of impertinence. To rejoice with those that do rejoice, without envy or malignity, constitutes a character amiable to others, and delightful to the

* See the author’s sermon on liberty and equality.

the possessor ; but for active benevolence, the calls are only occasional. To secure to all a fair field for the exertion of individual industry, by enforcing, impartially to each, the laws of justice, ascertaining and protecting property in its full exercise, is, in general, the utmost range to which benevolence, under a sense of common interest, can extend its active exertions with propriety. Such universal protection of all, by all, being obtained, a sense of separate interest will, generally, best accomplish every other purpose that benevolence could suggest. Cases will no doubt occur, as exceptions to the general rule, where individual interest cannot be prosecuted or defended, or where individual distress cannot be relieved, by individual exertion ; and in these, the humane and benevolent ought ever to be ready to assist. The human constitution is formed in wonderful harmony ; the principle of self-interest possesses, at all times, the energy of a passion ; whilst benevolence is only a disposition, in readiness to be roused into the passions of indignation, or of sympathy, as cases of oppression, or of distress, shall arise, which call for our active interference.

To suppose that benevolence, of itself, will or ought to lead to the incessant accumulation of funds, out of which distress may be relieved as it occurs, would be, to lay a stress upon this principle, utterly disproportioned to its habitual energy : And the secure prospect held out to selfishness, will be found the only means of creating funds for the purposes of liberality. In this sense may *the law*, protecting property, be called *our schoolmaster to bring us to Christ*. Those trained to habits of acquisition and accumulation, may indeed often prove deficient in liberality ; but they are the founders of the class born to independence, more apt to dissipate than to accumulate, but, in general, more liberal : And thus, through varieties of character, the same purposes are nearly produced, which might, in a better manner, be obtained, were each individual character more properly balanced.

The monks, who professed to renounce entirely this world for the next, instead of considering the active duties of life, as the proper preparation for eternity--who devoted themselves to
celibacy,

celibacy, and to a life of poverty, to be supported solely upon alms—in consistence with their general profession, their particular vow, and their own practice, were led to set light by industry, of the most powerful incentives to which, they were deprived by their rules: They, professedly, interested not themselves at all in industry, or that augmentation of population which may ensue upon increase of industry; they trenched upon the time of the industrious by religious festivals; they sung forth the praises of almsgiving, in which they had such an immediate interest; and so celebrated this particular display of benevolence, as if it comprehended the whole of Christian charity: Inasmuch, that the word *charity*, without farther explanation, is apt, from habit, to convey the idea merely of alms; though, undoubtedly, of all benevolent exertions, this is the most equivocal, even as to the accomplishment of its own end.* When those professed beggars and alms-preachers had become rich, through pious donations, given them in their own name, or as common almoners, who distributed the charity of other people; from fellow-feeling, and regard to consistency, they were profuse in the indiscriminate distribution of alms: and monasteries became the resort of idlers and sturdy beggars, who preferred the resource of alms, to that of their own industry. † A crowd of idle profligates were thus relieved from the necessity of industry, to which they might happily, otherwise, have been compelled by starving; and their subsistence ultimately rested as a heavy tax upon the industrious part of the community; which, of itself, might have been accounted a good political reason of the reformation.

Upon

* We have sermons upon alms, by clergymen of high respectability, in which too much of the spirit of monkism is displayed—where, too, the appropriation of the land and water, and other subjects of human industry, seems invidiously glanced at, as usurpations upon the common rights of man—where, also, the rich seem advised to *divide* with the poor, in the way of almsgiving; lest the usurpation, existing through sufferance, should be terminated by insurrection. All this favours strongly of the savage-state enthusiasm of Rousseau.

† Townsend, in his *Travels through Spain*, attributes the general want of industry, in a great measure, to the indiscriminating alms of the monasteries.

Upon the abolition of monasteries, at the reformation, the same difficulties occurred in Scotland, as in other reformed countries, in regard to making provision for the *really* poor; as also for curbing the licentiousness of those *stout idlers*, who, together with the really poor, had depended for subsistence upon monastic alms; but who now inundated the state, and lived by depredation. The evil seems, indeed, to have attained to such an alarming height, that some of the most strenuous assertors of liberty in the Scottish Parliament, thought it necessary to propose, that the whole mendicants, indiscriminately, should be enslaved, and their services adjudged to such masters as would consent to maintain them, for such work as they could compel them to perform. This idea seems, in some shape, to have been adopted by the Legislature; as appears by various acts of the Scottish Parliament; in which magistrates are empowered and enjoined to apprehend *sonners, maisterless men, sturdy beggars*, &c.; and to adjudge their services, for different periods, to such as would accept of and maintain them. Indeed, the Scots acts chiefly refer to such descriptions of poor.

There are a great number of Scots acts of Parliament, renewed from time to time, enjoining assessments for the poor, together with the building of parish workhouses, in which they were to be put to labour. These acts, either from their contradictory nature rendering them incapable of execution; or from want of interest in, or compulsion upon, those who should have executed them; were, in fact, never executed at all. Excepting, indeed, in great towns, where, from the number of the poor, their labour might be supposed somewhat adequate to the expence, the erection of workhouses would have inferred considerable expence, without prospect of indemnification. As desuetude is, in Scotland, understood to abrogate law, and ought ever, in mutable man, to be construed into dereliction of purpose, these laws may be considered as obsolete. The evil of *sturdy begging* has, in a great degree, ceased—having been consigned to the remedies of starving, or the gallows; and the real poor have been ever left to depend, chiefly, upon voluntary charity, without any legal provision—probably, the best

best footing on which the matter can rest, both as to the poor and their providers. From the enormous extent to which poor's rates have arisen in England, it is probable, that great caution will be used in attempting to organize this subject, as to Scotland, into any very strictly defined legal system.

The poor, generally, through Scotland, have hitherto been supported by voluntary contributions, given in at the church door on Sundays, and other donations; together with a few small stated perquisites, such as, from 2s. 6d. to 10s. for the use of a finer or inferior pall, or *mortcloth*, at burials; from one to two shillings for proclamation of banns of marriage; besides, in some cases, from the interest of money mortgaged by charitable persons. These funds are administered by the Minister and Kirk-Session (see Note A); sometimes, by allocating pensions from time to time; sometimes, in a manner, left entirely to the discretion of the Minister, lest the fixing of pensions should beget a reliance to relax industry. From the increase of dissenters, and the too prevailing custom among the opulent, of absenting themselves from church, it is probable, these funds may not long suffice; when recourse must be had to parochial assessments. Such equal assessment is also preferred by many, as it reaches every one; whilst, upon the system of voluntary contribution, the burden is rolled over upon the liberal, and the avaricious escape: Though, certainly, if the establishment of poor's rates leads, *necessarily*, to such enormous expence of poor's establishment, as has ensued in England, the liberal had better bear the whole of the present expence, six times told, than incur their fair proportion of the then rate.

Though the statute poor's laws in Scotland may be considered as obsolete, from disuse; there is, nevertheless, a customary law for poor's rates, though seldom, and never generally, acted upon (see Note A): And it would be well, if the necessity of acting upon it could altogether be superseded. Unlike to funds employed in productive labour, which reproduce themselves, together with a profit, funds, employed in support of the poor, are altogether annihilated. If an individual, or a
society,

society, are possessed of funds sufficient to maintain an hundred persons for a twelvemonth; supposing these hundred supported, idle—the fund perishes in the use, and is no longer in existence: If, however, it had been applied to the support of an hundred, as the wages of productive labour, in agriculture, trade, or manufacture, it is equally evident, that such labour would, at the end of twelve months, have replaced the fund, with a profit that might be added to it, which might enable it, for the ensuing twelve months, to support an hundred and ten or twenty—affording, thus, additional subsistence for an increasing population. Were the whole funds of society devoted to alms, and consumed in idleness, mankind would soon revert to the savage state, having nothing for subsistence but natural produce; and the one half might repeatedly eat up the other, before population was reduced to that limited number which natural produce would suffice to support. It seems ridiculous, therefore, constantly to ring the changes of commendation upon charity, in the sense of almsgiving, as if it comprehended the whole of what was commendable in neighbourly practice; and to consider the conduct of those, who lay out their funds in the employment of productive labour, which replaces them, together with a profit, as immeritorious, if not in some degree immoral; when the good of mankind so evidently requires, that no more funds should go to perdition, than what are absolutely necessary to relieve such distresses as cannot otherwise be relieved; and that the greatest quantity possible should be applied to the employment of productive labour †.

When the support of the poor is enforced by a compulsory tax, and a maintenance can be claimed as a right, and not a favour, the shame of application is removed*: And if the maintenance is any way equal to the wages of laborious industry, an irresistible temptation to pretence of poverty and

G g

inability

† See Note G.

* In death 1795, a small assessment of poor's rate was imposed, for the first time, in Newlands; and I found that many came to claim a share of *the money of the gentlemen*, who, otherwise, would have made no application.

inability is held out: So soon as funds are thus provided, a-
bundance of candidates for their consument will present them-
selves; nor is there any certain criterion to distinguish the
voluntarily from the *necessarily* poor. Nothing requires so little
encouragement to make it thrive, as idleness; to which pover-
ty, in two cases out of three, may be considered as a synonyme.
Through frugality, in the days of youth and strength, a fund
of support might often be provided against the infirmities of
old age; but the secure prospect of otherwise obtaining such
provision, supercedes the necessity of such saving.

Where poor's rates have been regularly established in Scot-
land, they have, from these causes, been continually upon the
increase †.

Where poor's rates are established, they necessarily bring
along with them laws strictly defining residence; that it may
be ascertained on whom the burden of the poor's support falls.
These laws, as enacted in England, have been, by some, considered
as originating in a humane regard for the poor, and to indicate
the

† Compare the expence of Yarrow, in the neighbouring county of Selkirk,
(Statistical Account, vol. 7th, page 509), where rates have been established for a
considerable period, with that of the parishes of Linton and Newlands in Tweed-
dale, where, till the last seasons of dearth, there were neither poor's rates nor fix-
ed pensions. *Ceteris paribus*, the poor are proportioned to the population; they
are supposed also to abound most where there are villages. Linton contains a vil-
lage of 300 souls; there is no village in Newlands, or in Yarrow. Throwing a-
way odd numbers, the population of Yarrow was 1200; that of Linton and
Newlands 900 each: The expence in Yarrow ought to have born a proportion,
therefore, to that of Linton, or of Newlands, as four to three. In Yarrow, how-
ever, in 1792, the rate, for one year, was 120l. besides the collections and other
funds: This sum, too, must have been all expended; as poor's rates are general-
ly laid on to answer pensions priorly allocated. But even including the dearth of
winter 1795-96, the yearly expence in Newlands and in Linton had not exceed-
ed 36l. each; nor 31l. for an average of five years. The clergyman observes, in
his Report above quoted, 'that the poor's rates were moderate at their commence-
ment, owing to the small number of pensioners:' an observation which surely needs
no comment. In the dearths 1799-1800, I have been informed, that the
poor's rate in Yarrow amounted, annually, to about 420l.: In Linton, and in
Newlands, the expence amounted only to about 100l. annually; poor's rates being
then assessed, in the two latter parishes, in aid of the ordinary funds.

the mode in which they may obtain a settlement : By others, with more appearance of probability, they have been looked upon as obtained upon the principle of self-defence, in order to get rid of every avoidable burthen. In England, it would appear, that no person coming to a parish is allowed to settle there, lest he should acquire a residence, and eventually become a burthen, unless he can produce security for his eventual maintenance to an extent that no industrious labourer, having only his own labour as his fund of support, can procure. Industrious labourers are thus confined as prisoners within the precincts of the parish which gave them birth ; they are debarred from carrying their industry to such places as have a greater demand for labour, and where higher wages might be obtained ; or, if they have acquired a new residence, they are prevented from retiring, in the season of age and infirmity, to such friends and relations as might soothe and comfort them ; and, by performing many little offices of good will, which could not be procured from strangers but for hire, might make their maintenance come far more cheap. The superplus of labourers, in one district, cannot be disburthened upon another, where a greater demand for labour hath arisen ; nor the necessity of the latter be relieved from the superfluity of the former ; the litigations instituted to evict residences, with the expence of the removal of paupers to their proper residence, costing more, too, in every litigated instance, than what the support of the subject of litigation would cost in any Scottish parish. (See Smith's Wealth of Nations, Book I. chap. x. part second, and third particular.)

From the moderate expence at which the poor have hitherto been supported in Scotland, laws of residence have very seldom become the subject of litigation : Otherwise, there are laws of consuetude, (at least, admitted by general acquiescence) ; as, that three years actual residence, without being beholden to any poor's fund, constitutes a legal residence to a grown person ; and, that birth constitutes the same to a child. But there is no authority in Scotland that can remove a stout labourer from a parish, to prevent his acquiring a residence ;

and

and no pledge against his eventual maintenance can be required, either from himself, or from his last parish where he had residence: he must be considered as what he is, and not in prospect of what he may become. Till the great increase of the expence of maintenance occasioned by the dearths of 1799-1800, I have heard of few instances of litigated residence. Indeed, it would appear preferable, in general, to support whatever poor happen to reside in your parish, if such rule shall be universally adopted, than to incur the expence of legal eviction of residence in any instance. Even under an expensive poor's establishment, such as that of England, it were probably preferable to adopt this rule as law, than to subject the labouring part of the community, and the public at large, to the oppressive restraints, inconveniences, and disadvantages, that result from the laws of residence.

In Scotland we have no office-bearers under the designation of *overseers of the poor* and *church-wardens*. If these office-bearers, who seem to have power to assess for the poor, are not themselves liable to the tax; or if they receive emolument proportioned to the sum they thus place under their own administration, it were not surprising should they be uneconomically liberal at the expence of other people. In the contradictory Scots acts of Parliament, (all, too, of equal authenticity, the subsequent always homologating the whole of what went before), the power of compulstion, as to the poor's provision, is sometimes lodged in the Sheriffs of counties, in the Commissioners of Excise, in Commissioners appointed by the Kirk-sessions, in the Kirk-sessions themselves, in overseers appointed by the Justices of Peace, or the heritors with advice of the Kirk-session. By the custom acquiesced in, it is the heritors who impose the tax, when recourse is had to rates: and, as they bear the one half of the imposition, their tenants, who bear the other half, are in the safe hands of those who have a common concern*. The minister

* In a small parish in Clydesdale, bordering upon this county, where the greater part of the lands belong to one proprietor, to whom the other heritors generally

minister and kirk-fession are the usual administrators ; but are responsible to the heritors for their administration : The administration is not considered as a voluntary service, for which hire may be exacted ; it is rather held in the light of a sort of professional duty. The poor's funds are, therefore, virtually, both imposed and administered, at no expence, by those who bear the burthen. Little liable as such a system would seem to the possibility of abuse ; yet such, it would appear, is the propensity to idleness, *alias* poverty, when any secure prospect of provision is held out to it ; that, as formerly observed, wherever poor's rates have been regularly established in Scotland, they have increased that poverty they were meant to cure.

Faulty as our consuetudinary system may appear in various respects, it is highly questionable, whether that man would in fact benefit his country, who should attempt to organize it into a more regular shape.

In burghs, poor's rates are laid on like other taxes, according to stented substance. In the country all is laid upon proprietors and possessors of land, by the rule of the valuation of the lands in the cess-books.

The Scots poor's acts, having chiefly relation to the poor from idleness, enjoins their apprehension, and the adjudging of their services to those that would accept of them ; and, from the act 1672 downwards, (as it would seem they could not be disposed of by the former provision), enforce and reinforce the erection of work-houses, or correction-houses, in all the principal towns, into which all the poor from their adjoining counties should be collected, and where they should be compelled to labour. Under severe penalties, the Magistrates are enjoined

generally delegate their powers as to public concerns of the parish, it was found necessary to establish a poor's rate during the late deaths. This proprietor sent messages to the tenantry of the parish, that, as several of them were elders of the fession ; and as all resided, and knew the situation of the poor ; and, as, likewise, they had to pay the one half of any assessment imposed, he knew nobody so fit to manage the business as themselves : He desired them, therefore, to meet with the minister and elders, under assurance of abiding by all that they should decree.

ed to erect such houses in thirty-two towns specially designed in the act. The heritors of the parishes in the counties attached, for that effect, to these towns, are enjoined to levy assessments, one half payable by the proprietor, and the other by the possessor of the lands, for the purpose of paying to the Magistrates at the rate of two shillings Scots, *per diem*, for each of the vagrants sent by them to the correction-house for the first year of their residence, and of one shilling Scots *per diem* for the next three years; the Magistrates, meanwhile, having also the profits of the work of these vagrants for these said four years, as also, for seven years thereafter, as an indemnification for the expence of erecting these correction-houses. After the expiry of said eleven years, the acts make no farther provision. It would appear to have been presumed that the vagrants confined in them would, by that time, have acquired such habits of industry, that they might safely be set at large upon the public. In these acts, however, the poor *unable to work*, *i. e.* the *real poor*, are left to be supported by *the voluntary contributions at the parish kirk*: So that the mode consuetudinarily now adopted for assessing poor's rates for the *real poor*, is borrowed from that part of the Scots acts which relates solely to the provision to be made for sending idle vagrants, *able to work*, to those correction-houses where they were to have been compelled to labour.—(*Dr Anderson has given a good view of the Scots poor's laws, in his periodical publication, called the Bee.*)

In a very few instances, *work-houses*, as they are designed, have been erected in great towns, in conformity to the *letter* of the Scots acts, for the reception of the *real poor unable to work*, who have been maintained hitherto by voluntary collections at the church doors, and other voluntary donations. In Edinburgh, the pressure of the two recent years of dearth and scarcity has led to the obtaining of a special act of Parliament, empowering the imposition of a poor's rate, when necessary, to the extent of 10,000*l.*, for the support of the unable, and the occasional relief, in such seasons, of those whose work cannot reach the whole of their maintenance.

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That there is a possibility of maintaining the poor more cheaply, when collected together into alms-houses, will appear evident to every one who has attended to the difference, in cheapness, of *common messing*, compared to *separate establishments*. But, though physically possible, it has been found morally impracticable to *mess* the poor at even the same degree of cheapness in alms-houses, as that at which labourers, receiving no charity, do, in fact, maintain themselves upon their distinct several establishments. From Dr M'Farlane's *Inquiries concerning the Poor*, published in 1782, it appears, that, even in Edinburgh (where the poor's houses are managed by the most respectable inhabitants, and are reckoned to be upon a better footing than those of most other countries), the average annual expence of each individual, in these houses, came to from 4l. 4s. to 4l. 10s.; whilst, upon the same average, the annual earnings of a tradesman, after deducting house-rent, amounted to no more, for food and clothing to himself and family, than 15l. *per annum*; which, allowing the computation of only three children to the family, falls to be divided among five individuals, allowing only of 3l. for the maintenance of each. Such is the waste that may be expected, when persons live at the expence and risk of other people: such the exertions and frugality which spring from natural affection, and the honourable pride of independence.

To think of maintaining beggars equally cheap as independent industrious labourers maintain themselves, is seemingly in vain: Yet, the expensive maintenance of the first, is an oppression of the last. (*See foot-note, p. 203.*)

The expence of erecting and superintending alms-houses, can, at all events, only be afforded in great towns: They are inadmissible in country parishes, where the population is thin. Even in great towns, it is questioned, whether the poor might not be more cheaply maintained in their own houses, (when left to dispose of such abilities as they possess, in such lines of smaller industry as they shall find out for themselves), by the assistance of occasional charity, distributed according to need and desert; when, having a less certain dependence, living more at their

own risk, and having the entire property of such earnings as they can obtain, by such industry as they are capable of exercising, a greater degree, both of œconomy and of industry, would be ensured; and they would also be more happy in their own feelings, when freed from the monotonous irksomeness of confinement, and from the languor of want of an employment immediately and personally interesting. A very accurate system of superintendence of the most respectable inhabitants (such as was enforced, in Edinburgh, by the necessity of the case, in the calamitous seasons 1799-1800) would need, however, to be kept up, to this effect. But men of business are too much occupied in business; and those of wealth and leisure are too busied in illustrious idleness, to find leisure for occupations of obscure usefulness.

Could work-houses be put upon the footing of those of Count Rumford at Munich; so as that the poor might have resort to them for work suited to their several abilities, without compulsion; might obtain the full ordinary wages of such work as they can execute, to be entirely at their own disposal; and wholesome food afforded them at the cheapest rate at which it can be afforded in the way of cooking in common, after the most ingenious contrivances for the œconomizing of fuel and of labour, and of such scientific cookery as gives the greatest quantity of nourishment from the least quantity of raw materials; there is little question but that the expence would come far cheaper, than upon any system of compelled labour under confinement, and where the whole profits of the work performed goes to the benefit of the work-house.

The following Tables, from the Statistical Accounts and other information, will show the easy rate at which the poor are maintained, where no regular poor's rates are established; and will also convey a general notion of the mode of the administration of the poor's funds. The Tables are from the books of the treasurers; in which are marked every mere occasional supply, under accidental distress from sickness, &c. as well as the more regular supplies in cases of permanently partial

tial or total inability to work. Gratuitous charities from well disposed neighbours, in articles of maintenance or of clothing, do not appear in the books, nor in the tables. No such gratuitous charities would be given under a compulsory system of regulations, leaving nothing to be determined according to private apprehension of need or desert.

H h

TABLE

TABLE I.

SHOWING the annual average expence of the Poor, in the three parishes of Linton, Newlands, and Kirkurd. There are no poor's rates in either of these parishes. In the two first, the settling of fixed pensions has been carefully avoided, lest security should relax industrious exertion; though, no doubt, in cases of extreme old age, &c. where the circumstances of the *pauper* were evidently seen to admit no hope of change, the supply given comes to be, in practice, nearly as equal and regular, as if a fixed pension were allotted. In the last, small pensions may have been allotted; though never to the extent of excluding dependence upon occasional voluntary relief. In the two first, the poor have been made to depend upon the discretionary power of the parish Minister, as treasurer; who acts according to the occasional advice, representation, &c. of the more respectable inhabitants in the different quarters of the parish.

LINTON Population, by Statistical Account, 928. By return Abbot's Bill, 1064.	Stock at	Ann. average		
	Interest.	Expence.		
	L.	L.	s.	d.
Average yearly expence from 1769 till 1773 - - -	32	10	18	8
Ditto from 1773 till 1781 - - -	125	16	19	3
Ditto from Martinmas 1782 till ditto 1785	125	31	0	0 $\frac{1}{5}$
Ditto from June 1785 till ditto 1790	125	18	17	10
NEWLANDS Population, by Statistical Account, 891. Abbot's Bill, 950.				
Ditto from July 1773 till July 1782 - - -	—	12	2	4 $\frac{1}{2}$
Ditto from July 1782 till July 1790 - - -	80	21	1	11 $\frac{1}{2}$
Ditto from July 1790 till July 1795 - - -	80	31	15	0
KIRKURD Population, by Statistical Account, 288. Abbot's Bill, 327.				
Ditto for five years preceding 1758. The average of pen- sioners yearly being 6 $\frac{2}{5}$ - - - - -	140	4 0 $\frac{1}{5}$		
Ditto for twenty years preceding 1778. The average of pen- sioners being yearly 10 $\frac{2}{5}$ - - - - -		10 9 6 $\frac{2}{5}$		
Ditto for ten years previous to 1792. The average of yearly pensioners being 6 $\frac{6}{10}$ - - - - -		9 7 8 $\frac{7}{10}$		

TABLE

T A B L E II.
Showing the Rates of Supply given through the Year to the Poor, in Newlands and in Linton.

The Year.	The Parishes.	Total number supplied through the year.	Annual Rates of Supply; and the Numbers supplied at each Annual Rate.				Number receiving above 1l. and up to the highest sum given; which sum is marked.	Extraordinary cases, where extraordinary supply was given.
			Number receiving 5s. and under.	Number receiving above 5s. and not exceeding 10s.	Number receiving above 10s. and not exceeding 1l.	Number receiving above 1l. and up to the highest sum given; which sum is marked.		
From 1. Jan. 1773 till do. 1774.	Newlands Linton	22	10	6	4	No. l. s. d. 1 1 1 0	1 orphan, 3l. 6s.	
		21	16	2	3	—	—	
1. Jan. 1774 till do. 1775.	Newlands Linton	19	8	3	5	2 1 5 6	1 orphan, 3l. 16s.	
		21	12	4	4	1 1 6 6	—	
1. Jan. 1775 till do. 1776.	Newlands Linton	18	8	3	4	3 1 5 6	—	
		22	13	5	3	1 1 4 0	1 orphan, 4l. 3s. 6d.	
1. July 1782 till do. 1783.	Newlands Linton	31	15	6	4	5 2 8 6	1 orphan, 3l. 2s. 6d.	
		42	19	10	9	3 1 18 10	1 orphan, 4l. 3s. 6d.—Loft in reduced price of meal, 6l. 11s.	
1. July 1783 till do. 1784.	Newlands Linton	28	10	7	7	3 2 1 0	—	
		33	8	7	10	5 1 10 0	2 families of orphans got 4l. 5s. 6d.	
1. July 1794 till do. 1795.	Newlands Linton	40	15	8	6	10 2 6 0	1 orphan, 1l. 10s.—Fathering a foundling, 3l. 9s.	
		52	29	7	3	9 2 0 0	1 bastard, 2l. 2s.—1 idiot, 3l. 15s.	
1. July 1795 till do. 1796.	Newlands	54	22	10	8	13 2 6 8	1 widow with 6 children got 3l. 10l.	

N.B. As only the names of the heads of the families supplied are inserted in the treasurer's books, the actual number of individuals who have received supply may be taken at the double, at least, if not nearer the treble of the numbers marked in the tables: For, though a number of the 3 or are single, solitary individuals; many of them are widows left with families; or families whose head has been reduced to poverty by the premature infirmity of disease or accident.

I am indebted to the Reverend Mr Forrester, Minister of Linton, for the following statement of the rates of supply granted to the poor of that parish from January 1800 till January 1801. I am sorry I cannot furnish a statement of the same kind for Newlands; as money was given to different distributors; and though their accounts were given in to the treasurer in detail, they are entered in his books only in gross: The annual expence, however, the number of poor, and the rates of supply, were much the same as at Linton.

Poor's rates were imposed in both parishes in the two dear years; but the administration was discretionary, without fixed pensions.

EXPENCE POOR OF LINTON FROM JAN. 1800 TO JAN. 1801.

The total number supplied was 70.—The whole annual expence amounted to 103l. 10s.—The rate of supply as under:

RATE.	No. of Poor at that rate.
From 2s. 6d. to 5s. - -	10
From above 5s. to 10s. - -	9
Above 10s. to 15s. - -	6
Above 15s. to 1l. - -	9
Above 1l. to 1l. 5s. - -	9
Above 1l. 5s. to 1l. 10s. - -	7
Above 1l. 10s. to 2l. - -	3
Above 2l. to 2l. 10s. - -	6
Above 2l. 10s. to 3l. 6s. - -	4
From 4l. 9s. to 5l. 16s. - -	7

The most serious burdens to which poor's funds are exposed, are, orphans and old people without relations, who must be committed to the hireling care of strangers; in which cases, there is much expence incurred, for little service, slovenly executed. Even a bastard child, disowned by the father, is not a very serious burden, if the mother is stout and economical: About twenty-five years since, I knew of an instance of this kind occurring in the parish of Linton; where the maintenance of the child, till it was fit to do something for itself, did not cost the Session, annually, above 40s.

In cases of bastardy, we are apt to be too indulgent to the weaker sex; though, undoubtedly, both culprits ought to suffer; and neither ought, surely, to be a gainer for their encouragement: Yet, when a ploughman could gain only 6l. or 7l. of yearly wages above his victuals, I have known one of this description americiated by Justices of the Peace in an aliment of 4l. yearly to his bastard child, till it should arrive at the age of ten years. The next to ruin that would ensue upon similar decisions, would render them equivalent to an act of banishment, and defeat entirely their intention; besides holding out an irresistible temptation to perjury, in Scotland, where, by law, it is referred to the accused father's oath to decide whether he is or is not the real father; unless, indeed, the mother can adduce presumptive proof, from circumstances (*semiplena probatio*) of his guilt; when her oath is taken in supplement of her proof.

In the dearths of 1782, 1795, 1799, 1800, some parishes bought meal, and sold it at an under-rate to their poor; others approved rather of distributions in money; as interfering in no way to the discouragement of the retail trade in meal; the encouragement and free competition of which, was considered as both highly convenient for those tradespeople who got no poor's supply, and as the best security against their being imposed upon.

There are two or three friendly societies in this county: In last dearths, some of their capital was lost, by being embarked in the very idle, but highly popular concern of importing grain. They have all embraced the privileges of the act of Parliament in their favour, by submitting to its regulations. Under the frugal management of administrators chosen by the members, they promise to be of great use, at small expence, and with little risk of misapplication.

SECT. VIII.—Population.

I. POPULATION TABLE.

Names of Parishes.	Total number returned to Dr Webster in 1755.	Total number, according to Armstrong, in 1775.	From Sir John Sinclair's Statistical Account.									Taxed houses of 7 windows and upwards.
			Total number.	Males.	Females.	Ages.					Inhabited houses.	
						Under 10.	From 10 to 20.	From 20 to 50.	From 50 to 70.	Above 70.		
Linton	831	800	928	449	479	218	186	349	146	29	178	9
Newlands	1009	940	891	448	443	220	195	333	103	40	182	8
Eddlestone	679	810	710	371	339	131	146	272	120	41	—	5
Kilbucho	279	250	363	188	175	105	75	135	37	11	62	4
Kirkurd	310	260	288	131	157	55	56	113	58	6	65	6
Lyne & Meggot	265	167	152	71	81	26	41	64	15	6	—	4
Skirling	335	230	234	120	114	49	56	105	18	6	—	2
Broughton	367	274	264	142	122	75	57	96	31	5	—	2
Mannor	320	292	229	123	106	49	52	—	—	—	42	8
Drumelzier	305	320	270	123	147	—	—	—	—	—	—	6
Glenholm	392	270	300	135	165	76	72	—	—	—	55	5
Inverleithan	559	420	560	268	292	—	—	—	—	—	—	10
Traquair	651	480	445	—	—	118	88	181	39	19	—	10
Peebles	1896	1582	1920	—	—	547	365	626	324	60	—	28
Tweedfmuir	397	250	227	—	—	—	—	—	—	—	51	5
Stobo	313	300	318	—	—	—	—	—	—	—	60	5
Totals	8908	7645	8099	—	—	—	—	—	—	—	—	117

According to Dr Pennycook, the population in 1715 was 8000. In the Statistical Accounts, it appears, that the population of Linton in 1777 was 1003. In the account of Lyne and Meggot, the average population is said to be 160. In the account of Mannor, after the classification, as in the above table, the classification continues; 54 from 20 to 30 years; 28 from 30 to 40; 28 from 40 to 60; 17 from 60 to 80; 1 from 80 to 90. In that of Glenholm, the population is said to be more numerous in Summer. In that of Stobo, the arrangement is; above 8 years of age, males 119, females 102. About 40 of the inhabitants, stated above as belonging to Inverleithan parish, reside in that part of the parish which lies in the county of Selkirk. In Peebles parish, 21 of the taxed houses are within the burgh, as also 1480 of the population.

II. POPULATION TABLE.

[p. 239.]

ABSTRACT of the Returns of the Population of the County of Peebles, made by the Schoolmasters of the different Parishes, in Pursuance of an Act passed in the Year 1801, entitled, 'An Act for taking an Account of the Population of Great Britain, and of the Increase or Diminution thereof.' Obligingly communicated by Mr Robertson, Sheriff-clerk.

Parishes.	Houses. Question I.		Question 2. Persons, including children.		Total of Persons.	Question 3. Occupations.			Total of Persons.
	Inhabited.	By how many families occupied.	Males.	Females.		Persons chiefly employed in agriculture.	Persons chiefly employed in trade, manufactures, or handicraft.	All other persons not comprised in the two preceding classes.	
Peebles	397	510	963	1125	2088	151	336	1601	2088
Linton	221	249	495	569	1064	567	86	411	1064
Newlands	195	195	461	489	950	458	177	315	950
Eddlestone	135	136	351	326	677	220	38	419	677
Traquair	113	115	312	301	613	84	38	491	613
Inverleithan	117	130	286	323	609	112	63	434	609
Kilbucko	64	64	156	186	342	94	15	233	342
Stobo	56	62	160	178	338	14	13	311	338
Kirkurd	64	64	152	175	327	66	21	240	327
Manor	47	51	167	141	308	42	11	255	308
Skirling	59	59	150	158	308	74	23	211	308
Drummelzier	47	50	125	153	278	21	17	240	278
Tweedfmuir	53	53	135	142	277	15	10	252	277
Broughton	44	47	101	113	214	30	31	153	214
Lync	23	24	67	100	167	46	6	115	167
Glenholm	47	47	114	128	242	28	14	200	242
	1682	1856	4195	4607	8802	2022	899	5881	8802

TABLE

Of Taxed Clocks, Watches, and Dogs, in 1797; for which I am indebted to Mr Brunton, County Surveyor.

Names of Parishes.	Clocks.	Watches.		Total Watches.	Dogs.		Total Dogs.
		Of gold.	Of silver.		Paying 3s.	Paying 5s.	
Eddlestone	11	3	10	13	1	17	18
Newlands	11	8	10	18	1	27	28
Kirkurd	5	5	8	13	—	20	20
Skirling	1	—	2	2	—	—	—
Stobo	5	—	6	6	1	10	11
Glenholm	4	3	5	8	—	9	9
Kilbucho	3	1	3	4	—	4	4
Mannor	7	2	10	12	5	15	20
Drummelzier	4	4	4	8	1	19	20
Tweedsmuir	5	1	2	3	1	6	7
Lyne & Meggot	6	—	5	5	—	11	11
Inverleithan	7	2	7	9	—	22	22
Traquair	11	3	9	12	1	18	19
Broughton	2	—	1	1	—	—	—
Linton	5	1	6	7	—	14	14
Peebles, country	4	—	5	5	—	20	20
Town ditto	15	2	19	21	2	9	11
Totals	106	35	112	147	13	221	234

None of the foregoing accounts of the population would appear to have been made up from actual enumeration, but those in the statistical accounts, and in the return by the school-masters, pursuant to Abbot's bill.

Pennycook, as physician to the county, had much opportunity of information, though it is probable that his statement is merely deduced by calculation from probable *data*. The return to Webster, I am informed, was made up from calculations, founded upon the proportion which the whole population is supposed

supposed to bear to the number of examinable persons upon the minister's examination-roll; but it is uncertain, how far such lists might have been accurately kept; and, though examinable persons are considered to be those who have attained to eight years of age, and all above that age, yet it is questionable, how far, in every instance, such classification might have been rigidly adhered to. Armstrong's statement, I know, in various instances, was taken from the random guesses of clergymen sitting at their own fire-sides, who kept no regular lists.

The inhabited houses are noticed, in eight of the parishes, in the Statistical Accounts; and the rate of inhabitants to an house, in these, is $5\frac{1}{10}$. In the same parishes, by the return in pursuance of Abbot's bill, the rate of inhabitation is $5\frac{1}{7}$ to an house; and by said return, the general rate of inhabitation is $5\frac{1}{4}$ to an house.

It is, unquestionably, a matter of great importance, that the real state of a country should be ascertained; and for this purpose, it would be necessary, in Scotland, that the keeping of regular registers of marriages, births, and deaths were enforced.

In the assortment of the population of Tweeddale upon Abbot's bill, the classes employed in agriculture, trade, manufacture, and handicraft, are stated at 2921, and the non-descripts, at 5881, or more than double. The schoolmasters would need more specific instructions as to such assortment; otherwise, nothing can be learned from their returns—while some, as is consistent with my own knowledge, in this county, return, in the non-descript class, the whole of the females, and the whole of the children; and others make the wives and children go along with the fathers of the families, &c. &c.

In twelve of the parishes, the proportion of males to females is given in the Statistical Account; and the females exceed the males by 51; and, in proportion of the whole population in these twelve parishes to this difference, the whole population of the county, by said accounts, should give a difference of excess of females over males of $79\frac{2}{7}$ nearly: This excess, *per* return under Abbot's bill, is 412; but, in proportion of the whole of

the population, *per* Statistical account, to the whole under Abbot's bill, the excess of females by the latter ought (in the above *ratio*) only to have been $86\frac{1}{2}$ nearly. Could this difference of excess in the females be owing to the absence of males, in consequence of a state of war? or, are these great variations of the proportion, to be attributed to inaccuracies in the different enumerations? No doubt, in the twelve parishes of the Statistical Account, on which the above calculation is grounded, the town of Peebles is not included; and this may make the general excess of females over males appear considerably less from the Statistical Account, widowed females generally betaking themselves to towns; not, however, seemingly, to such an extent as should easily explain the great difference of excess in the return under Abbot's bill. The enumeration under Abbot's bill was, indeed, made during the Summer half year, when the farmers employ more servants, particularly female servants; and that may have increased the difference of the proportion of females, and, indeed, of the extent of the whole population, by the excess of the demand for farm servants in the Summer half year, above what is supplied by the spread of the Winter inhabitants of the town of Peebles, and villages, in that season, over the country: But this alone could not nearly account for either the excess of the proportion of females, or the increase of 903 upon the whole population, in the return of Abbot's bill; not even upon the supposition of the returns to Sir John Sinclair having been made, generally, from an enumeration in the Winter season.

The sure method of obtaining an exact enumeration is, to have it executed over the whole empire at one time; which prevents all possibility of deficiency, or duplication of return, in consequence of migration.

Considering the great excess of the proportion of females under Abbot's bill, which certainly implies the absence of a greater number of males in the army and navy, who are therefore not enumerated; and considering, *notwithstanding*, the great excess of the total population over that returned to Sir John Sinclair; it must certainly appear, that the population of the
county

county has rapidly increased within these ten years bypast. As this increase cannot be attributed to the introduction of manufactures, it must be ascribed to improved agriculture; and the lamentation over the depopulation of the country, which we find in several of the statistical accounts of Tweeddale parishes, must either have proceeded from misinformation, or from partial views—it may have taken place, *locally*, in some parishes, *but not upon the whole*, over the county; or *apparently*, (from circumstances explained p. 47, 48.) *where it had no reality*: And hence the account of *farm-towns* once inhabited, and now fallen to ruins, which are considered as the marks of a former more frequent population.

The population in Tweeddale, according to the above tables, would appear to stand at the rate of 1 to $26\frac{2}{5}$ acres; or at the rate of 24 to the square mile*.

The following state of the population has appeared in the newspapers, as already presented to the House of Commons:—

	Males.	Females.	Total.
England - - -	3,987,935	4,343,499	8,331,434
Wales - - -	257,178	284,368	541,546
Scotland - - -	734,581	864,487	1,599,068
Ireland, not yet returned, computed - - -	— —	— —	4,000,000
Islands of Guernsey and Jersey computed - - -	— —	— —	80,000
Army and Militia -	198,351	— —	198,351
Navy and Marines -	126,279	— —	126,279
Seamen in registered ships -	144,558	— —	144,558
Convicts on board of hulks -	1,410	— —	1,410
Total - - -	5,450,292	5,492,354	10,942,646

SECT.

* That the reader who has little access to books may form some comparative notion of the relative states of population, I subjoin a state of the computed population to the square mile in different countries, from Townsend's Travels in Spain: Russia 5; Spain 67; England 107; France 147; Holland 272.

The population of Tweeddale appears to be nearly an one hundred and eighty-second part of that of Scotland.

SECT. IX.—*Corn Laws.*

THE best corn laws for encouragement of agriculture ever introduced into Scotland, were, the acts of Parliament 1449 and 1469, with the gradual extension of the principles of these statutes, through the liberal interpretation of our Judges; *affording assurance to the cultivator of the soil, of reaping the fruits of his labour and his capital, by communicating security to his tenure of possession.* The act of Parliament 1748 falls under the same description: Much also remains in expectation from individual exertion; as an enlightened sense of self-interest shall be more and more diffused through the classes of landed proprietors, and of professional farmers, in regard to the proper construction of leases.—*See note D.*

In regard to the corn laws, properly so called, the views entertained by landed proprietors and farmers seem to be, that the price of corn should be artificially enhanced, by constant bounties upon its exportation, and by the prohibition or discouragement of importation; excepting in clamant cases of more than ordinary scarcity and dearth. And considering how many exclusive privileges have been obtained against these classes, by merchants and manufacturers, who have so often had the address to persuade the public at large of the coincidence of the public good with their own private views—in monopolies of the home market, secured to them by prohibition of the importation, and bounties upon the exportation of such articles as they deal in; together with monopolies of the home-produced raw materials of manufacture, by prohibitions of its exportation in an unmanufactured state; it is not surprising, that the former classes should have bethought themselves of obtaining exclusive privileges in counterbalance.

If we trust to the opinion of that profound and close reasoner, the author of the *Wealth of Nations*, it would appear, that, though home monopolies will enrich merchants and manufacturers, at the expence of their fellow-subjects, thus iniquitously debarred from buying where they can be cheapest served;

ferved; yet, that no such advantage can accrue to farmers or landholders, from such exclusive possession of the home market of corn: for that corn is the standard of value of every other marketable commodity; and that a certain quantity of corn will ever, at an average, purchase the same quantity of labour (so essential a part of the constituent price of every marketable article), proportionally to the liberal, moderate, or scanty reward given to labour in any country, according to the progressive, stationary, or declining state of its prosperity. That such artificial enhancement of the price of corn, therefore, could be of no real benefit to the farmer or landed proprietor; for, though the farmer can afford more money rent in proportion to the greater money price he receives for his produce, his landlord can make no larger purchase of home labour, or its products, in which his expenditure must chiefly lye; as they must all proportionally rise in money price; nor can the farmer, for the same reason, extend his cultivation proportionally to this increase of the money price of his corns; and that, by consequence, this artificial enhancement of the price of grain cannot tend to the encouragement and increase of tillage. That, meanwhile, the heightening of the price of corn heightening the wages of every manufacture, disables the manufactures of the country from competing in the market with the manufactures of other countries, where wages are cheaper.

It would be much more consonant to the natural sense of equity, and probably not impolitic, to remove every kind of artificial restriction in regard to agriculture, manufacture, and commerce; and to leave every one to turn to the best account he can, his skill, his industry, his capital, and his revenue, destined to enjoyment in consumption; subjected merely to such impositions of taxation as are necessary for the support of Government.

Considerable alarm, in regard to the declining state of agriculture through the kingdom, seems to have been excited by the publication of Colonel Dirom upon the corn laws, in 1796.

From

From that publication it would appear, that, from the year 1688, (when bounties upon exportation were first permanently obtained, in addition to the formerly existing restrictions upon, or prohibitions of, importation), till the year 1750, our export of grain gradually increased; till it arose to an annual average of 800,000 quarters above our imports: But that from that period (after which our corn laws ceased to be so favourable to export, or so inimical to import) a melancholy reverse took place; till at length, during the twelve years from 1773 downwards, the balance against exportation arose so high, as to amount to an annual excess of 311,176 quarters imported, above what was exported; and from that period till 1793, to about 546,408 quarters.

A publication subsequently appeared in 1797, entitled, *Dispersion of the gloomy apprehensions, of late repeatedly suggested from the decline of our corn trade; and conclusions of a directly opposite tendency, established upon well authenticated facts*, by the Reverend John Howlett. The execution seems to come up to the profession of the title of the work.

As 800,000 quarters was formerly the balance of exportation above importation, and the importation now exceeds the exportation by 546,408 quarters; it is evident, that the proportion of grain consumed, to that raised, exceeds, *now*, the proportion in 1750, by both these sums, or by 1,346,408 quarters annually. When, however, says Mr Howlett, it is considered, that, since 1750, the population of Great Britain has increased probably by 2,500,000*—that, in consequence of increasing wealth, the whole population are better fed—that the increase of consumption of butcher meat has so augmented, as that, upon a moderate computation, 300,000 more of sheep are annually killed, 60,000 of oxen, and 40,000 of swine—that the additional number of high fed horses, *now* kept for pleasure, for travelling, for transport of commodities, above what were kept for these purposes in 1750, amounts, upon probable calculation,

* The actual enumeration has seemingly shown the increase to be greatly above the supposition in the text.

lation, to 400,000: And it will then appear, how very little length these 1,346,408 quarters of grain would go to the support of this prodigious increase, both of men and animals, which must subsist upon the produce of land. This greatly increased consumpt could not possibly have been supported, but from a proportionally increased production from the lands, by the improvement and extension of agriculture: Nor is there taken into the above account, the increase of consumpt from the additional number or better feeding of working cattle, implied in improved or extended agriculture; nor the additional animals of the dairy, required from increase of population; nor the increased rate of maintenance for those in the army and navy.

Mr Howlett appeals to every one's experience of what he sees around him, in regard to the progress or retrogradation of agriculture—the seen state of the fact, being a much surer ground of conclusions, than the returns from the Custom-house.

He is of opinion, that corn laws cannot have any considerable influence in any way; but alleges, that as the improvement of agriculture has continually increased since the Revolution, and that as corn laws (of the best construction, in the opinion of the favourers of them) have, at different portions of that period, co-existed, an opportunity is thus afforded of confounding mere coincidence with causation: But that agriculture will be found still to have gone on progressively improving, equally, during that portion of these periods when they are supposed least, as when supposed most favourable*. That if

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* At the Revolution, life, liberty, and property were perfectly secured; and that encouragement given to industry, which arises from security of reaping, and unmolestedly enjoying its fruits. Shall, then, any superior cause be sought for, to account for the prosperous state of industry in agriculture, or any other occupation? Under such circumstances, is it not glaringly absurd to search for the causes of the nation's thriving, in any partial system of regulations, such as the corn laws, which it has been found repeatedly so necessary to alter and amend, and so frequently to suspend altogether in their execution? Might we not almost as rea-

sonably

corn laws had any considerable effect, it would chiefly appear in keeping the market price steady and uniform: but that, even in those periods, when corn laws are supposed to have operated to the best effect, the prices appear to have been subject to equal fluctuation, as at any other period; as is evident, upon inspecting the tables of prices, produced by those who would wish, from thence, to show their beneficial effects. That the price must depend upon the seasons sent by Providence, and is but little determined by the controul of human contrivance, in the way of regulation.

SECT. X.—*Game Laws.*

THE sacred animals, whose persons are inviolable, whose actions are secure against responsibility, whose damages can neither be prevented nor compensated (like those of the human species) by their punishment, nor extirpation, nor recovery from their owners, or, rather, those who have the exclusive privilege of becoming such, so soon as they can catch them—owners, therefore, only upon hypothesis:—these animals, in this country, are of a kind, whose ravages are very little destructive. We have no deer, or wild boars, roaming at large. Excepting in a slight degree, in regard to Muirburn (page 193), we have no laws sacrificing husbandry to the accommodation of the game: We have no regulations protracting the cutting of hay, till the birds shall be fledged; or of corns, till they shall be fat; or prohibiting the use of certain manures, for
spoiling

sonably account for the success of an individual, not from his industry, but from his Christian name, or his nose, according to the hypothesis of Father Shandy? There is surely no little degree of impertinence in the enthusiastic patronizers of the corn-law system, in calling upon us to arrest our attention upon trifles of even ambiguous tendency, to the neglect of the invaluable blessing of that freedom we enjoy. A sound constitution of body can stand the tampering of quacks; and when vigorous health still remains, it is apt to be ascribed to the *nostrum* administered. The superior soundness of the British constitution may thus confer unmerited credit on many an idle or unsalutary political *nostrum*.

spoiling of their flavour *. Crows, which every one is allowed to destroy at pleasure, occasion much more damage to the crops, than the whole tribe of game animals put together. The only damage at all worth attending to, is that resulting from men and dogs, in pursuit of the game.

Before the high tax upon game licences, with heavy penalties for hunting without licence, the sheep, particularly upon the range of Pentland-hills, in Linton parish, were much molested, in the muirfowl season, by thoughtless, idle, apprentice boys from Edinburgh, traversing the grounds.

In regard to the detriment of agriculture, the very worst possible regulation, in respect of the game, would be, to throw it indiscriminately open, with liberty to pursue it everywhere, to all without distinction. The very best would be, to vest in the occupying farmer, an absolute power of preventing every person, without exception, from hunting over his farm against his consent: A privilege thus granted of favour, and not held of right, would never be abused, to the damage of farming stock.

No doubt, those privileged to hunt, are commonly in circumstances to enable them to make full compensation for any damages they may occasion; and in such situations of respectability, as would restrain them from knowingly occasioning any damage whatsoever: Yet, without some such regulation, property launched out in farming can hardly be conceived equally protected by law, as other property launched out in the business of other gainful professions. To have recourse for damages, merely where damage can be legally instructed, would

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nowhere

* Allusions to the old French game laws.—See *Young's Tour*. There are laws on the Scottish statute book, unrepealed, which prescribe the punishment of the loss of the right hand, for the third offence of shooting pigeons. They may be considered as fallen into desuetude, like other laws also unrepealed; such as, the statute against fornication, in 1567, by which it is ordained, that all persons guilty, as well the men as the women, 'shall be tane to the deepest and foulest poole, or water of the parochin, and their to be thrice douket; and thereafter banished the said town or parochin for ever.'

nowhere else be considered as a sufficient compensation, for having property put in risk at the mere pleasure of another.

Suppose the whimsical privilege were assumed, of playing cudgel matches, for diversion, in a glass or china shop: The shopman would surely have some reason to be dissatisfied with this privilege, although he had the most undoubted security of recovering all damages that might ensue; and though, from the nature of his wares, no damage could possibly occur, in total fracture, or even mere fissure, but what could, with ease and certainty, be instructed. In hunting, however, for example, with slow hounds in Tweeddale, where the sheep, walking wide, are naturally very wild, the mere recourse for legally instructed damage must afford still less adequate compensation for the risk; as, from the nature of the property, much damage may be sustained, which is utterly incapable of any legal instruction—such as, loss or prevention of fat, from disturbance in their pastures—diseases consequent upon overheating, in running through fear, or even upon fear itself. Here, as elsewhere, the power of prevention of unnecessary risk is the proper and the best security. Upon the other hand, it would appear a severe regulation to exclude the proprietor, without leave asked and granted, from such rural sports as he might find upon his own grounds; which might have a tendency to prevent monied men from investing their capitals in the purchase, the improvement, and adorning of landed estates. Expediences here clash, and the subject is confessedly of great delicacy. Farmers, no doubt, are apprized of their situation, and, in their calculations of discount, must make allowance for risks, whether more constant or occasional. Meanwhile, I have stated the matter in the strongest point of view; as there can be no harm in reminding hunters of the very particular situation, in which the very valuable farming stock of the country is placed—a circumstance perhaps too apt to be forgotten in the ardour of the chase.

Game seems now, by the latest decisions, to be considered as property; or, at least, that the property of another cannot be rendered subservient to the use of starting game in it, or of
following

following game through it; and it is thus happily in the power of the proprietor of the lands to exclude all privileged hunters, whose rashness might render them more regardless of risk upon the property of another, where they have less interest in the tenant's thriving.

In the case of sheep worried by dogs (a case sometimes occurring in the country, and often in the vicinity of towns and villages), it seems not perfectly decided, whether the *first* trespass of the dog is at the risk of the proprietor of the sheep, or of the owner of the dog. In the latest, I believe, and strongest decision of the Court of Session, upon this subject, the decision went near to the establishment of the general principle, 'that the first trespass is at the risk of the owner of the dog.' In that case, of a dog belonging to a tan-yard, an opportunity was given of bringing forward the matter upon the general principle, divested of all specialties: But (though it was made a common cause, I have heard, among a number of persons keeping sheep around Edinburgh) the anxiety of the parties led them foolishly to bring forward some vague specialties, tending to criminate the former character of the dog; and, though the only circumstances of this kind, either alleged or proved, amounted to no more, than 'that the dog had, some time before, been seen looking earnestly at the sheep in the enclosure,' the Court, in awarding damages against the owner of the dog, laid much stress upon this specialty of the case, in order to decline the indirect establishment of the general principle—a measure which our Courts of Justice seem shy of adopting; such decisions amounting, in effect, to a sort of legislation, and requiring legislative caution and deliberation.

C H A P. XVI.

OBSTACLES TO IMPROVEMENT.

Deficiency of capital is the great general obstacle to agricultural improvement. Manufacturing and trading capital have had so many superior privileges bestowed upon them, that more than a due proportion of the capital of the country has, thence, been attracted into trade and manufacture. Nor, if we trust to the opinion of the author of the *Wealth of Nations*, can this disadvantage be counterbalanced, in favour of agriculture, by any exclusive privileges attempted to be bestowed on capital employed in this occupation by the corn-law system. More full security of reaping the proper fruits of agricultural skill and capital, than what is presently enjoyed, might certainly, however, be conferred, to the encouragement of the more extensive investiture of capital in farming, and to its accumulation in more rapid progression, were it not for prejudices of various kinds.

Prejudices, too prevalent among landed proprietors, in regard to the extent of interest in the lands communicated by the lease to the occupying cultivator; both as to the *duration* of that interest, and also as to the *complete alienable property* of it—Prejudices destructive, in an high degree, of agricultural *credit*, and tending to prevent the tenant's fixing of even *his own capital* in the soil; restricting, of course, all the more important improvements, of permanent duration, but distant return, to the exertions of the landed proprietor; whose means, generally

generally equalled by his expence, seldom greatly abound, cannot speedily accumulate, and are necessarily least efficacious in their application;—the Scots law, seemingly not as yet sufficiently disentangled from the shackles of feudalism, giving too much sanction to such prejudices. *See notes B and D.*

Prejudices in regard to the *size of farms*, which would lead to regulations, on the part of individuals, or even of the public, interfering with the natural order in which the subject would necessarily arrange itself; upon the principle of *the existing agricultural capital exerting itself uniformly to obtain that mode of its investiture, under which it can be rendered most highly productive.* (*See note D.*)—Entails tend to obstruct the best arrangements; both in regard to the duration of leases, and also in regard to those exchanges or sales of property which might tend to render farms more productive, either as to size, or to other circumstances of more convenient and profitable possession. The little effect of the relaxation of entail, by Act, Parliament 10th of his present Majesty, in regard to leases, has been specified already (page III.): A power is, in that act, also conferred, of making exchanges of land, to the extent of thirty acres; which may sometimes suffice, but much oftener may fail to effect the purposes of a profitable exchange. An originally bad constitution is not easily rectified.

Prejudices of the mob, which have too much infected every legislature, in regard to *the free marketing of grain*; discouraging the profession of the corn-merchant; forcing, in some measure, the farmer into retail trade, and depriving him of the advantage, so profitable to every producer, of a wholesale merchant to take off, and to pay for his produce; returning him thus immediately the capital he had advanced, with its profit; and enabling him again immediately to apply it to the peculiar business of his profession, as a producer—and that, too, with entire and undivided attention. In time of dearth, these prejudices expose both the farmer and the corn merchant, so essentially useful to him, to the destruction of their capitals, by the fury of the unenlightened mob.—Nor are these mobbish conceptions confined entirely to the lower orders of society.—

Our

Our statute book ought to be purged entirely of all laws enacted in the spirit of mobbish conception, which continue to give countenance to such absurd prejudices (*see note H*); and the prompt exertions of the military force should ever protect from outrage the capitals subservient to agriculture—the most usefully employed of any other. A strong standing military force is indispensable, both to the effecting and to the perpetuating of the civilization of any country.

The want of proper subdivision of labour, and of farming, in all their several branches. This want cannot be supplied by any regulation: There is an universal tendency, however, to such completion; as every one must find that *practice makes perfectness*, according to the proverb; and would find that he could gain more by undivided attention to one thing, could he only obtain sufficiency of employment to occupy himself entirely in that way. This infers, however, a plenitude both of capital and of population*.

The want of richness of soil, and benignity of climate. This is an evil which admits not of complete cure: It may be palliated; by the shelter of wood plantations; by the enclosure of arable farms, and the adoption of a mode of preparation, and of cropping of the lands, suited to the soil and climate; as suggested through the course of the Report.

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* The subdivision of labour, and exclusive application to one species of work, has a natural tendency to produce the arrangement of men into *casts*, as they are found in the early civilized eastern regions; the families readily continuing to follow the occupation of their forefathers. It seemed to have produced something of this kind in Holland; where, it is said, villages were to be found entirely occupied by a particular species of boors, or farmers, who devoted their whole attention to the culture of lint, and its manufacture into flax, fit for the spinning-wheel. They possessed no lands upon lease; but hired, for a single season, from more general farmers, particular fields, ready dressed, for carrying a crop of lint: The profession of lint boor was continued among them from father to son: I know not if they usually intermarried, exclusively, with those of the same cast; or whether such custom had grown so invariable as to have obtained the force of a law; or whether this mark of an approach to high cultivation, has survived the irruption of the disciples of the savage-state philosophy of Rousseau.

The want of proper modes of storing up grain, so as to preserve it from natural decay, and from the destruction of vermin. Such an invention would more deserve a premium, than that of ascertaining the longitude with precision, or that of dying cotton of a scarlet colour. Grain would then continue at an equable price; the plenty of one season would cover the scarcity of another; and we would hear no more of dearths. Within these twelve or fifteen years, we have been visited by the brown burrowing rat, which seems entirely to have banished our former species of black rat: They seem too cunning to be ensnared to take arsenic; at least when administered in the way of unscientific family practice; and our best remedy hitherto discovered, is a sufficiency of cats. Foxes have abundant shelter in the numerous young plantations of wood through the county; and their depredations among young lambs are often very considerable: A fox-hunter is supported in the county by contribution among the sheep farmers. The gentlemen proprietors, out of the rogue-money collected along with their cefs, have, of late, revived the institution of a thief-catcher, to clear the county of such sturdy beggars as extort alms by intimidation.

The prohibition of the exportation of wool, by confining its sale to home manufactures, may prevent the price from rising to the rate it might otherwise do, and prevent that attention being paid to its improvement which otherwise might be paid.

Corn laws, as of doubtful tendency; and

Game laws, as in some degree detrimental, have already been mentioned.

Bad roads may also be again noticed, as referring to this chapter, particularly the by-roads.

 C H A P. XVII.

 MISCELLANEOUS OBSERVATIONS.

 SECT. I.—*Agricultural Societies.*

THERE are none in the county instituted for the express purpose of formally discussing agricultural topics: A bookseller in the county town has set up a circulating library; but meets with small encouragement: From the thin dispersed state of population, the number of readers cannot be many, and those who do read do not read much. A monthly club, composed chiefly of farmers, meet at the head inn of the county town, for social intercourse. There is a society of the proprietors and farmers, instituted for the purpose of prosecuting rogues, from a fund raised by annual contribution of the members.

 SECT. II.—*Weights and Measures.*

Butter, cheese, wool, hay, are sold, within the county, by the Tweeddale iron weight; the pound consisting of 23 English ounces, and 16 such pounds going to the stone. Butter and cheese, sent to Edinburgh, are sold by the pound of 22 English ounces; 16 such pounds to the stone.

Meal, butcher meat, pot barley, are sold by Dutch weight, of $17\frac{1}{2}$ English ounces to the pound. Meal is generally retailed in half stones, containing eight of such pounds, called pecks, sixteen such pecks going to the boll, and two bolls going to the load; which last is the denomination under which it is sold in wholesale, a peck being given to each load, though this practice is wearing

wearing out. Barley is sold in pounds and stones, by retail; in wholesale, it is sold in bags, the bag containing sixteen stones.

Groceries are sold by the English pound of sixteen ounces.

Grain is all sold, now, by a late regulation of the Justices of Peace, to whom such regulations are by law committed, by the Linlithgow firloft; which is also, by law, the standard of Scotland. The firloft is subdivided into four pecks, four firlofts go to the boll, and sixteen bolls to the chalders. Potatoes are sold by the oat firloft, with as many above the mouth of the vessel as will lye when tossed on by a shovel: The weight of a firloft of potatoes may be about eighty stones Dutch weight; though, in potatoes, as in grain, the proportion of the weight to the measure depends upon the quality of the article.

The new established firloft, is a wooden vessel, *with its sides rising at right angles to the bottom*; a mode of construction indispensable to uniformity. In the old measure, the sides were made to rise at all varieties of acute angles from the bottom; so that, though they all held exactly the same quantity of water, they varied, to the extent of difference (as I am informed by dealers) of from a 40th to a 30th part, according as the less or greater acuteness of the angle admitted of the easier or more difficult passage of the grain into its apex. Many persons seem deeply interested in establishing the sale of corns by weight, and not by measure: There is, no doubt, a sleight in measuring, which cannot be practised in weighing: In other respects, the seller, in both cases, must make calculation of differences of value, in the same weight and same measure of grain, according to the different qualities of the grain as to thickness of hulk, and its different states of dampness or dryness. Sixteen stones Dutch is the weight of good bigg in Tweeddale: It has been known, in favourable seasons, to weigh eighteen or nineteen stones; but this weight is seldom attained.

The liquid and long measures in Tweeddale, are the same that generally prevail through Scotland.

I shall state here a few facts which have been omitted in their proper place.

Dairy farming, as the system of tenants paying rent, which is now such a considerable object in the parishes nearest to the capital, was first practised, in its present mode of accuracy, upon the farm of Wester Deanshouses, in Newlands parish. Sir James Montgomery of Stanhope resided upon, and occupied this farm, while he held the office of Sheriff of the county. Sir James afterwards let the farm to Mr Thomas Stevenston, who, in consequence of the prior residence, found himself furnished with every accommodation and conveniency for dairy farming, in a style greatly superior to what any landlord would, then, have thought of proposing, or the tenant of requiring. The tenant contracted with Edinburgh coffee-houses for fresh butter; and, though with somewhat more trouble, obtained prices superior to what are obtained by those who sell it to weekly carriers, or to Edinburgh grocers: The same mode of disposal is continued by his son, who succeeded him in the farm. Old Stevenston threw upon this practice; and left three sons, established in as many farms, in this county. Mr James Henderson, in Westmains of Kirkurd, was the next that made a figure in this species of farming.

Mr George Dalziel, innkeeper, first at the village of Linton, and afterwards at Noblehouse inn, was the first farmer that sowed turnip in the open fields: I believe he had a field of perhaps two or three acres at Linton, so early as the 1763 or 1764. An innkeeper upon the London road, which then passed by Linton to Carlisle, previous to the making of the road by Selkirk, had many opportunities of information; and Dalziel was a man of observation and acuteness. I believe he might also be the first who cultivated potatoes, on a large scale, by the plough. But the knowledge got from oral information, can never be so accurate or complete, as what is obtained from ocular inspection of the practice. Dalziel made trials, both of turnip and artificial grasses: I believe, however, that neither were at all adopted into a regular system of rotation of cropping, till
introduced

introduced in this form by M'Dougal, as noticed (page 56). I have reason to believe, that the turnip husbandry was introduced into Ayrshire, in consequence of a hint given by Mr Alexander Dalziel, son of George, and then factor upon Lord Glencairn's estate, to a Mr Smith occupying a farm near to the village of Monkton in that county; in consequence of which, Smith came to Noblehouse, in the Summer of 1789 or 1790, on purpose to be instructed in the practice of the culture of the plant when growing, in singling the plants by the hand-hoe, and ploughing betwixt the drills. The fact, being so recent, may be easily ascertained. So late as the publication of Colonel Fullarton's Report, the regulated Ayrshire practice, to which the tenants were bound by their leases, was that of three years corn crop followed by six years grass: and though this system would appear to have been only a small improvement upon some prior system still more barbarous, we find, that the honour of its invention continued to be still keenly contested, as, antiently, was the honour of the birth-place of Homer.

Wooden flakes, for confining sheep upon turnip, are coming more and more in request: For these two last years, many Tweeddale carpenters find almost close employment in furnishing them—a sign that Tweeddale sheep farmers, in feeding on turnip, do not pay their whole attention to the benefit of the sheep, as stated in page 72.; but are attending more to the benefit of the land. The flakes are each nine feet long, made of foreign fir; and, when well painted, are, according to their more strong or more slight construction, afforded at from 5s. to 7s. per flake. In Autumn 1801, when the aftermath clover was everywhere so luxuriant, an intelligent farmer, in the parish of Dunfyre in Clydesdale, bordering upon this county, consumed his clover by sheep enclosed in flakes, as on a turnip field, to the great benefit of the land. This practice was a novelty in this neighbourhood.

To one acquainted with this county for upwards of 30 years bypast, it conveys a pleasing idea of progressive improvement, that the class of farmers, formerly studious of making gain
merely

merely by saving, are now so liberal in their outlay, even upon the mere instruments of their trade.

It may be here noticed, that the Tweeddale hills are generally hard and dry; that the sheep are peculiarly healthy and hardy, the rot being scarcely known; and that, for holding stock, the heavy ewes, in particular, (in which kind of stock there is the greatest risk, from unsound pastures), sell at a price proportionally more high than that drawn for similar stock from more suspicious quarters, in proportion to the diminution of the risk of their thriving.

CON-

CONCLUSION.

WAS man covered, by nature, with fur, like the bear; were the elements so tempered, that their influence could not injure him, or his body impassible and unsusceptible of injury—did he inhale aliment, with breath, like the camelion; was the continuation of his kind provided for by the permanence, and not the succession, of individuals; or, was the succession procured by spontaneous production, without distinction of sex, or the passions originating in that distinction --- Upon such suppositions, there could be no call for industry, to procure clothes, houses, fuel, or meat; no necessity of any kind of exclusive appropriation; no possibility of injury, nor perception of distinction betwixt justice and injustice; no need of mutual co-operation, of government, or of law;—but each individual, possessing the boasted perfection of the stoic sage*, would constitute a complete whole in himself, unconnected with, and independent upon society. Having no wants or desires to stimulate his selfish exertions, for their relief or gratification †; having as little call upon his benevolence, in behalf of others, as unneedful as himself, it were difficult to conceive what could be his occupation—whether his state of existence would not be merely passive? whether he could be said to live, or merely to vegetate? whether his mind could turn its attention upon its own powers, or rise to objects of more sublime contemplation, without

* Totus in se teres atque rotundus.

† Ingenii largitor venter.

out having the knowledge of such powers brought home to its consciousness, from their first having had their energy called forth upon more immediate and urgent concerns ?

It were endless to indulge speculation upon the consequences deducible from ideal suppositions. We must take man as he is—fitted for, and destined to action, by his great Creator—impelled, by his wants, to those exertions to which their relief is entrusted—and left to become the artificer of his own fortune—impotent, indeed, in his individual capacity ; but powerful, in the co-operation of his fellows.

The prosperity of man in society ; the extent of the population that can be supported ; together with the comfortable subsistence of that population, depend upon the improvement of Agriculture and the other Arts : and their improvement, is the joint result of stock, of skill, and of industry.

Stock is created by man, in his capacity of an hoarding animal, out of the savings of the products of his industry.

Skill is obtained by him, as an observing, a recollecting, comparing, combining, inventive, and communicative being—from experience and information, from judgement and inference. His animal frame is happily adapted to enable him to carry into execution the contrivances of his intellect. He acquires dexterity, in his operations, from habit, in their frequent repetition : And the excellence of his dexterity, depends upon the exclusive application of his talents to one occupation ; both leading to, and consequent upon, the proper subdivision of labour and employment.

Industry consists in the unremitting and strenuous application of skill, dexterity, or stock, to their proper profitable occupation. Man's excitement to it, arises from his wants and his desires, joined to the certain prospect of being allowed to apply its products to their relief and gratification. In particular cases, his benevolence will excite him to strong exertions of industry ; in the case of descendants, always—if, indeed, under this modification, the motive is, with such strict propriety, designed benevolence : In general, though it may frequently arouse energy, it is a motive much less energetic, or, at least, by no means

to be depended upon for such unvarying constancy in its operation as his selfishness.

To afford him the certain prospect of enjoying his acquisitions, and of transmitting their secure enjoyment to descendants, or other natural objects of his affection, through the protection of equal law—This is all that society can effect for him, to stimulate him to the exertion of industry, to the acquisition of skill and dexterity, and to the accumulation of stock—This is all that can, in this view, be held out to him, in the arrangement of the terms of private contract for specific purposes*.

To think of rendering him industrious through regulation, were he not industrious by nature; or to attempt to excite his industry, without holding out its proper excitement, were to offer remedies to the dead. The vital power exists of itself; remedies cannot infuse it, but must presuppose its existence: Regulation should attempt nothing but the removal of obstacles to industry.

Skill, industry, and stock, are mutually and equally subservient to each other, in promoting the productive efficacy of each. Without a certain proportion of skill and industry, no stock could ever be created; or, if in existence, could be turned to no profitable account. Without the possession of a certain proportion of stock, skill and industry could not be applied but to operations of immediate return; though, in agriculture particularly, the importance of the return is often in the direct proportion of its distance. Without skill, the operations of industry must be comparatively inefficacious. Till stock, however, has been considerably accumulated; till individuals become rich; so as to have leisure for contemplation, without necessity of constant personal application to labour, for the purposes of immediate subsistence; no skill can be acquired, no time can be dedicated to the cultivation of the sciences, to the consequent invention of machinery, nor to the discovery and contrivance of the application of the other natural powers to the facilitating of labour

* See note D.

bour—through which means alone can industry be rendered, to the highest degree, productive*.

Energy, once raised, exerts itself universally. Man delights, and with reason, in the exercise of those talents that mark the superiority of his nature; though the exertion should bear no immediate reference to the ends that first called them forth to action: They become the subjects of emulation, the source of conscious satisfaction, and the foundations of fame. In the words of an elegant political author—‘The spirit of the age, then, affects all the arts; and the minds of men, being once roused from their lethargy, and put into a fermentation, turn themselves on all sides, and carry improvements into every art and science.’

The spirit of a monk dictates seclusion from the world. The spirit of Christianity considers this world as the theatre of active duties; in the proper discharge of which, consists the best preparation for eternity.

* See note G.

N O T E S.

NOTE A.

THE division into counties, marks the boundary of the jurisdiction of the Sheriff, who is the judge of the county in civil causes, (all of which, in Scotland, are determined by the judge, without the intervention of a jury), his sentences being subject, upon appeal of the parties, to the review of the Court of Session. This last mentioned court is the Supreme Court of Scotland, from whence an appeal lies only to the house of Peers. It is composed of fifteen judges, (nine of whom constitute a *quorum*), and is justly considered as the Grand Jury of Scotland in civil causes *.

The Sheriff is also the criminal judge of his county, judging, in petty crimes, without a jury; and having, as generally supposed, a right to judge, though seldom choosing to judge, without a jury, in crimes inferring severe punishment, only short of capital †. His sentences are considered as subject, by appeal, to the review of the Court of Justiciary, in all cases of severer penalties,

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nalties,

* It was this notion of the Court forming the great national Jury in civil causes, which raised, not many years since, the well-founded opposition to the economical plan proposed, of augmenting the salaries of the judges, by diminishing their number, and dividing those of the abolished places among those to be retained.

† Arnot, in his history of Scots criminal law, observes, that Magistrates of royal burghs have shown greater aptitude to judge without juries in such causes within their burghs, than Sheriffs within their counties; whence he concludes, that presumption is always in proportion to ignorance. It is a necessary qualification in a Sheriff, that he shall have passed trials as an advocate before our supreme court.

nalties, except where he has decerned upon the verdict of a jury. The power of the Sheriff to judge, by a jury, in capital cases, seems to be falling, or to have fallen, into disuse; all such cases being now determined by the Court of Justiciary, in their more permanent sittings at Edinburgh, or at their annual circuits through the country. This last mentioned court is composed of a Lord Justice-General, (an office next to sinecure), and of six of the judges of the Court of Session; these six having an additional salary, proportioned to the additional trouble of their double *gown* *. They judge in all capital cases, upon the verdict of a jury, and (as has been ascertained by the rejection of an appeal by the House of Peers as incompetent) in the last resort. They are always ready to meet for dispatch of business, as it occurs, at Edinburgh, during the Winter and Summer Sessions of the Court of Session; and take circuits, two and two together, through the different districts of Scotland, for the administration of criminal justice, during the Summer vacation of that Court. Private parties are not bound over to prosecute crimes. This duty is devolved upon the procurator-fiscal, before the Sheriff-court; and, upon the Lord Advocate, or his deputies, before the Court of Justiciary, in Edinburgh, or the Justiciary Lords, upon their circuits. They are the public accusers, and carry on criminal prosecutions at the public expence. The institution of the Grand Jury, with whom is vested the power, after precognition of facts, of suppressing, or of enforcing, criminal prosecutions, is unknown in Scotland, where these powers are vested in the Lord Advocate alone, who has been found irresponsible in the execution of his office, by a decision of the Court of Justiciary, upon a complaint against him (originating, apparently, rather in the wish to have the extent of his powers defined, than in any feeling of oppression) from a person against whom he had intended a criminal prosecution, and who was acquitted by the jury through failure of proof †. The institution of a public accuser seems a great improvement

* *Gown*, the Scottish name for the robe of office.

† M'Laurin's criminal cases.

improvement in criminal law. The investment of the extensive powers of a Grand Jury, in an officer of the Crown removeable at pleasure, is apparently less favourable to the security of the subject; yet no feeling of grievance has been excited for more than half a century; affording one proof, among many, that Liberty, or (to speak more correctly) the proper circumscription of liberty, (whence results equal and general security of life, liberty and property), is more dependent upon general knowledge and manners, and the publicity of measures, than upon any specific forms that have been devised to insure it.

The courts of the Commissaries have also a county jurisdiction, extending to cases of scandal, probates of wills, marriage, and divorce, &c.; being the remaining vestige of the civil jurisdiction exercised by bishops courts. Unlike to other Scottish courts, the emoluments of the judge arise not solely from an adequate fixed salary, but from weighty fines or dues upon each particular cause; the whole expence, almost, of obtaining justice, thus falling upon the party, instead of his being insured, as in other courts, against the expence of the judge, which the public at large defray.

The jurisdiction of the justices of the peace, is almost every way similar to that of the justices in England; with the exception, that we hardly know such a character as that of a *trading justice*, making money of his office; whence we are apt to infer, that the nomination in England is not confined, as in Scotland, to the respectable landed proprietors. This jurisdiction of the justices extends, as to the powers of each, singly, and of the whole, collectively, over the county for which they are nominated. Classifications of parishes into districts, for holding different justice courts, for the greater accommodation of litigant parties, has of late been made over Scotland, in pursuance of the late act of Parliament for Scotland, vesting in the justices a power of judging, summarily, and without appeal, and according to the dictates of conscience alone, in all causes founded upon mere personal contract or obligation, where the claim does not exceed the value of 3l. 6s. 8d. Sterling.

To confine judges to written laws, as the rule of their judgement, is the characteristic feature of liberty; and the expence of formal litigation, is the price that must be paid for liberty. To allow them to judge, at discretion, and without appeal, bears a strong resemblance to despotism. Where, however, such power is vested in a class of men, in an independent situation, and confined to causes in which they have no personal interest, and of such small magnitude, as removes every suspicion of improper influence, the summary justice of the Asiatic *cadi*, seems, in practice, infinitely preferable to the expence and delay ever found attendant upon formal law litigation. The utility of this mode of administering justice, has been so apparent, after experience, that many counties in Scotland expressed their wish to the Legislature, through their representatives, that the powers of the justices should be enlarged. Their powers have accordingly been extended, by a subsequent amendment of the act, to causes where the claim does not exceed 5*l.* Sterling in value*.

The division of counties into parishes, refers, almost exclusively, to ecclesiastical duties and jurisdiction.

Every parish in Scotland is provided with a minister (clergyman); in some instances with two.

The minister is presented to the office and its emoluments, in many instances, by the Crown; in the rest, by some lay patron, all of whom are generally extensive proprietors of land. The person presented, must be one found qualified for the office by the Church: And the Church, jealous of its own respectability, has enforced, by a number of repeated regulations, a very long apprenticeship, in the way of literary and theological

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* Barony courts might have been noticed as another mode of the administration of justice, but they are almost universally fallen into desuetude, excepting in case of disputes arising at public markets or fairs, where the bailiff of the barony, within which the fair is held, decides the differences that may arise between neutral persons at the market. The decisions of a bailiff, dependent upon the proprietor of a barony, in causes of litigation between the baron and his own tenant, must certainly appear in a very suspicious light to independent judges, before whom they might come by appeal. A jurisdiction of such a nature ought every where to be laid aside.

cal education. The candidate for the ministry, after a regular course of university education, must regularly attend the theological lectures of a divinity professor, in some one of the universities, for at least four successive seasons; during which attendance, he must give repeated specimens of his talents for public speaking, in discourses, publicly delivered, upon prescribed subjects. Before he can obtain a license from the Church to be a public teacher, he must also undergo examination before the Presbytery to which he applies for such license, and exhibit before them specimens of his talents for teaching, by discourses on a variety of prescribed subjects. The purity of his moral character must likewise be sufficiently attested by the clergy in whose bounds he has resided during all the stages of his progress, from the commencement of his theological studies. When he has received license to preach from the Presbytery, he is *qualified* to receive a presentation to a parish. But, before his admission into a benefice by the Church, he must again undergo similar trials and examination before the Presbytery within whose bounds the parish to which he is presented lies.

By the old Scottish acts of Parliament, the Church are bound to receive into the office whatsoever *qualified* minister shall be presented by the Crown or other lay patron. After the Revolution, by act 1690, the right of presenting to vacant parishes was taken from the patrons, and vested in the heritors (or landed proprietors), the elders (or vestry), and the heads of families of the parish; who presented, or, in the technical phrase, *called* the minister to the office. This act was, however, repealed, and the right of presentation again vested in the original patrons, by an act of Queen Anne. This act of Queen Anne was unpopular with the lower orders in Scotland, who seem generally to favour the right of universal suffrage in the election of ministers*; the Church of Scotland, for a while, seemed

* The great bulk of dissenters from the Church of Scotland, have left it, upon account of the mode of election by a patron, instead of universal suffrage. Within these thirty years, an election of a dissenting minister took place in this county, upon

seemed to espouse the cause of the lower orders. In order to defeat the intention of the act, they set up the position, that a *call* was still necessary, as well as a presentation; and that a presentee (though stamped current as a *qualified* person by the Church, in obtaining license from it) could not be considered as *qualified* for that particular parish to which he had been presented, unless he obtained also a general call from the parishioners, who alone were the proper judges whether or not *his particular cast of gifts suited their particular capacity of edification*. A call from the parishioners was therefore adopted, as a necessary requisite to admission into the office, after a presentation had been given. To prevent juggling tricks of patrons, by presenting such unqualified persons to parishes as the Church would refuse to induct, in order that they may pocket the emoluments, there are laws enjoining patrons to present *qualified* persons within six months from the vacancy, under the penalty of incurring a forfeiture, for that *vice*, of the right of presenting, which then devolves to the Presbytery *: And, in one instance
upon

upon the broadest basis of the most tumultuary popular election. It was on that occasion adopted as a maxim, that *every one who had a soul to be saved*, husband and wife, man, woman and child, masters who had a permanent residence, and servants who might change theirs at every term, had all an equal right to vote in the election; provided only they had arrived to the capacity of judging; the test of their having arrived to this, being held to be their participation of the sacrament of the Lord's Supper, which generally takes place from the age of 15 to 18.—What mode hath been adopted in later elections, I have had less access to learn.

The dissenters profess to adhere to the articles of the Established Church, but to differ in their interpretation from the established clergy, who are supposed to have relaxed from the rigour of high Calvinism, in forming conceptions of the Supreme Being, more amiable, and less tremendous, than what are suggested by absolute decrees of election and reprobation. Some difference is also stated as to the mode of enforcing the duties of morality. *To ding down gude works*—to vilify their importance as to man's salvation, seems, among the dissenters, to be the proper mode of exalting and doing honour to the supreme efficacy of the Redeemer's righteousness. To treat morality with somewhat more respect, is imputed as an error to the established clergy—it is called *legal doctrine*.

* That patrons may not be tempted to keep parishes vacant, there is also another law, by which patrons are obliged, at the sight of the heirors, to apply the
vacant

upon record, the Church, under colour of this law, refused induction to a presentee whom the parishioners refused to call; upon pretence that, by this refusal, he was evinced to be a person *unqualified* for that particular charge; and also, upon the assumption that the right of presentation had thus devolved to the Presbytery, gave induction to another, whom the Presbytery presented upon a call from the parishioners. Upon a competition for the emoluments of office, by these two candidates, our Supreme Civil Court found, that the patron's presentee had no right, because he had not received clerical induction into the office; and that the other had as little title, as he was not presented by the patron: That, of course, no forfeiture of the patron's right had occurred; that the parish remained still vacant; and that the rights of patrons could not be defeated, nor popular election substituted in their room, upon any such pretexts. The inhability of a lay presentation alone, to confer a right to a church office and benefice, without clerical induction, was indeed thus sustained; but it was equally manifest, that the refusal of clerical induction to a presentee, who had been stamped as qualified by the Church, could not infer a *jus devolutum* on the part of the patron, and could only prolong the vacancy of the parish. For these reasons (and probably also from the apparent absurdity of supposing that the qualification of sufficient talents and literary acquisitions was not of universal application, but that every particular cast of head required an appropriate particularity of adaptation), the Church has, for a long period, ceased to obtrude the necessity of popular election; and, though the form of a call has not yet fallen into desuetude, and has indeed been declared by the Church to be a necessary form, the people themselves are convinced of its being only a form, and in general very properly refuse to appropriate to themselves a mere semblance of popular election, where the substance is wanting: The presentee is therefore clerically inducted, unless tenible objections are stated, after a citation with

vacant stipends to *pious uses*; that is, to such works of public utility, as are not otherwise provided for by law,

with proper *inducie* to that effect (called, *the serving of his edict*); against his doctrine or moral character*.

Those who are satisfied with the previous regulations of the Church, as a sufficient security against the admission of improper members, adhere to the Church; whilst such as imagine their own private choice necessary to constitute the *pastoral relation* betwixt themselves and their clergyman, join the Dissenters †.

Probably three fourths, or more, of the candidates for benefices in the established Church, obtain their purpose through a long course of service, as tutors to children in families that have interest with the Crown, or other patrons—another course of clerical training, that seems still further to ensure both literary acquisition and propriety of conduct. Accustomed, however, to look up to the higher classes for promotion, the manners of candidates for the established Church, are rather formed to conciliate the favour of the more enlightened part of society; and are less adapted to the taste of the lower orders, than the manners of those who look down towards universal suffrage. The dissenting clergy are probably more popular with the lower classes; and may, there, have more influence. Indeed, there
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* Though I have described the mode in which church settlements are now carried on, it must be observed, that there has ever existed an opposition party in the Church (called the high-flyers, or wild party, by their antagonists, who design themselves, the moderate party), who insist on the necessity of a call. It is believed, none of them would wish to establish the universal right of suffrage in all *who have souls to be saved*. The party seems, however, divided in opinion; some wishing to extend the right of suffrage to every male the head of a family; others, to restrict it to heritors and elders: others, merely to heritors, either estimated *per capita*, or in proportion to their valuation in the cess-books. The Church, perhaps not ever wisely, has set her own forms in opposition to her practice, by a declaratory law, passed not twenty years since, in which the call is declared a necessary *form*.

† The relation betwixt a clergyman and his congregation, is compared, sometimes, to marriage; to the completion of which, mutual consent of parties is necessary: And other conclusions are also drawn from this simile, as a ground of reasoning—as, that translation to a better benefice, is spiritual adultery, &c.

is a source of error, arising from mere position; and he that is foremost, may sometimes be conceived to lead, when, in fact, he is only driven—as the rise or fall of mercury in the barometer is the indication of the state of the weather, but not its cause.

The mediocrity of the livings in the Scottish Church, has been considered as favourable to the respectability of the clerical character; confining their attempts at distinction to the roads of literary eminence, or exemplary morals, and attention to their professional duties; and precluding every hope of its attainment through the ostentatious display of riches in expence: The equality, however, of church livings, and the next to total absence of every chance of promotion, present a want of *stimulus* to great exertion.

The lowest Ecclesiastical Court, is that of the *Kirk-Session*, a court somewhat similar to that of the English Vestry, and which hath only a parochial jurisdiction. It is composed of the minister of the parish (who is the perpetual *moderator*, or president), and an indefinite number of elders, two of whom, with the minister, are necessary to form a quorum *. As an Ecclesiastical Court, the *Kirk-session* exercises a sort of censorial power over the inhabitants of the parish, inflicting upon delinquents the penalties of exclusion from the sacraments, or the penance of public rebuke from the pulpit, before the congregation, on Sabbaths: This power, which, from its nature, is discretionary, would seem, in former times, to have been exercised often in a manner very inquisitorial, harassing, and vexatious; particularly before Ecclesiastical censures were deprived of all civil penal effect: It is now exercised with more discre-

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tion;

* The elders are chosen from the landed proprietors, or other respectable inhabitants of the parish: The existing *Kirk-session* choose the elders, who are formally installed into the office by the minister, if no objection appears against their moral or religious characters, after proper citation, upon ten days *inducie*, to that effect. It is sometimes difficult to get proper persons to consent to become elders, from the idea, that the character imposes an obligation to a conduct peculiarly exemplary.

tion; and, in most great towns, it is not exercised at all.† Its exercise, in country parishes, is chiefly confined to fornication; their administration of the poor's funds making Kirk-sessions chiefly anxious in investigating an irregularity which may affect the funds, in bringing the maintenance of bastards upon the parish*. In all Ecclesiastical causes, an appeal lies from the Kirk-session to the Court of Presbytery.

Besides their Ecclesiastical jurisdiction, Kirk-sessions are the ordinary administrators of the poor's funds of the parish; which they administer without any expence whatever, or any farther fee or reward, but the conscious satisfaction, and general credit that may accrue from administering well. Their administration is subject to the controul of the heritors (landed proprietors of the parish), who may, when they please, inspect the accounts; and who ought to be voluntarily consulted by the Kirk-session, in all important transactions of uplifting or lending out such poor's money as is at interest. Where poor's rates are established (which seldom took place, excepting during the last two years of dearth and scarcity), the heritors, upon previous citation from the pulpit, meet once a quarter, or half year, with the Kirk-session; when (a list of the poor being made out, and weekly or monthly pensions being allotted to each)

* Church courts cannot, by their sentences, affect the civil rights or property of any person: Their power extends only to what may be called the spiritual correction of vice, by exclusion from the sacraments, till public penance is performed, or other satisfying marks of penitence exhibited. A woman's accusation of a man, as having been guilty of fornication with her, is not listened to, unless a child is produced, as a *corpus delicti*, substantiating the existence of the crime, and thus far giving credibility to the accusation. If, *then*, the woman can prove no presumptive circumstances, the man can repel the accusation by his oath—if she proves any such, his oath is not admitted. The civil law follows the same rule, as to decerning the aliment of the child, which the Church does as to fixing the scandal: of course, the presumptive proof taken by the Church court, is often, though not *necessarily*, sustained by the Civil court. (See page 237. of the Report.)

each *) the Kirk-session account for the one half of the money arising, since last meeting, from collections at the church doors on Sabbaths, and from the poor's perquisites paid in at funerals and marriages; which sum, together with the interest of lent money, being compared with the pensions assigned, the deficiency is made up by a parochial assessment, the one half payable by the proprietors of the land, the other half by the farmers who occupy it: the remaining half of the money, arising from collections and perquisites, is left under the administration of the Kirk-session, to provide for accidental unforeseen cases of distress.

The Ecclesiastical court immediately superior to Kirk-sessions, is that of the Presbytery. This court comprehends, under its jurisdiction, a greater or lesser number of parishes, seldom under twelve; and is composed of all the ministers of the parishes under its jurisdiction; each Kirk-session in the district having a right to send also one lay elder to represent them, who is elected every half year. In this court, all processes against ministers must originate. Its Ecclesiastical decisions are subject to the review of the Court of Synod.

Besides its jurisdiction in matters purely Ecclesiastical, as to the doctrine and discipline of the Church, this court hath vested in it a separate jurisdiction, in matters of a partly civil nature, in which its judgements are not subject to the review of any court but the Supreme Civil Court. *1mo*, Where a minister is not provided of a glebe, or where it is deficient in quantity, they can set off, for that purpose, from the church lands within his parish, to the extent of four and an half Scots acres of arable land (including the space occupied by the site of his *manse*, or dwelling house, and garden), as an arable glebe; together with as much pasture land as may suffice (according to report of valuator) for the pasture of two cows and one horse. They can also compel the heritors to build, or keep in repair, the

* Sometimes no pensions are fixed, from the dread of suppressing industry, by begetting reliance; but a gross sum is voted, and left to the discretionary management of the Kirk-session.

the parish church, and the minister's manse and offices. *2ds*, With concurrence of the county commissioners of supply, they may compel the heritors of every parish to make provision of a legal salary for a schoolmaster *; and also to build an house for the schoolmaster's residence, and a school for teaching in. The heritors are the electors of the schoolmaster; but his election is not valid till he is found qualified for the office, after examination, by the Presbytery; and the Presbytery have it at all times in their power to dismiss him, either for incapacity or immorality; their sentences as to his qualifications being subject to review of the superior Ecclesiastical courts alone. The Presbytery has generally five or six stated meetings yearly, or more, upon citation from their moderator, (chosen half yearly from the clerical members), when unforeseen business occurs. The meeting is held at the county town within the jurisdiction.

The provincial Synods are the courts next in superiority to Presbyteries, holding meetings twice a year, in November and in May. These comprehend a greater or lesser number of Presbyteries; and all the component members of the Presbyteries under their jurisdiction, are constituent members of the Synod.

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* The *maximum* legal salary cannot exceed 11l. 2s. $2\frac{9}{12}$ d.; the *minimum* is 5l. 11s. $1\frac{4}{12}$ d.; the one half is payable by the proprietors, the other by the occupiers of the land. The schoolmaster is almost always constituted *precentor* (the person who leads the singing of psalms in church), and clerk to the Kirk-session. The wages of teaching are very low; from 1s to 1s. 6d. per quarter for reading English, and not exceeding from 2s. 6d. to 3s. for reading, writing, and arithmetic; the scholars, too, paying only for the precise time of attendance. The whole emolument of the Scots parochial schoolmasters will not, probably, at an average, exceed twenty guineas yearly—a recompence, by much too small, for their very useful and most laborious occupation. Schools are generally supplied from among young men prosecuting their studies with a view to the clerical office; and, if there were no church benefices in prospect, there could be no well qualified schoolmasters in fact, as no person, any way decently qualified for the office, could ever content himself with a country school as his *ultimatum*.

An appeal lies from the Synods to the Supreme Court of the General Assembly of the Church of Scotland*.

The General Assembly is the Court of last resort. The King is there represented by his Commissioner. It meets once a year, for ten days in the month of May, at Edinburgh. It is composed of representatives from all the Presbyteries of Scotland, each sending two clergymen at least, or more, in proportion as the clergy constituting the Presbytery shall exceed twelve in number: One lay elder is also sent from each Presbytery, and one from every Royal burgh and university. With the exception of the erection of new parishes, or of assistant charges in the same parish, or *overtures* (proposals) of new laws, every cause Ecclesiastical must originate in the inferior courts of Kirk-session or Presbytery, and can only come before this court by appeal. The power of legislation does not rest entirely with this court, though it here possesses pretty extensive powers of controul: The power of enacting standing laws, is, by the constitution, vested in the courts of Presbytery, to which all *overtures* of new laws must be remitted for their deliberation, and without the concurrence of the majority of which they cannot be enacted. Like the Lords of the Articles, however, in the Scottish Parliament, the General Assembly can refuse to transmit any *overture* for deliberation; and can even refuse to enact, after a return of approbation from a majority of Presbyteries. By such arrangements has the Church endeavoured to avoid

* In regard to the power of appeal from inferior to superior church judicatories, there is a singularity in the constitution of the Scottish church, to which no parallel is perhaps to be found in any constitution, antient or modern. Even although none of the parties interested should feel aggrieved by the sentence pronounced, or appeal from it, it is, nevertheless, competent for any member of the court which has pronounced the sentence, to bring it under review of the Superior Court, upon his announcing his dissent, and protesting for liberty to complain, if he shall conceive either that the sentence is contradictory to material justice, or subversive of any principle of the constitution: The Superior Court will receive an appeal from such appellant, and to the effect either of simply censuring the court which pronounced the sentence, or of totally reversing the sentence, as they shall see cause.

avoid the inconveniences objected by Anacharſis to Solon's republican model of Athens, *of the wiſe only deliberating, while fools decide.* Under her cumbrous Dutch built form of republican conſtitution, the church is moſt unwieldy in her motions, particularly in enacting laws. The neceſſity, therefore, has been apparent, of inveſting the General Aſſembly with the indiſpenſable power of enacting overtures into *interim* laws, to be of force from Aſſembly to Aſſembly, till the general ſenſe of the Church can be obtained; and, which is pretty ſingular, ſome of the moſt important laws of the Church, in regard to the qualifications of clergymen, and in regard to diſcipline (which laſt goes to the important effect, as to the clergy, of deprivation of office, benefice, and the clerical character), ſtand upon no other authority, than this *interim* proviſory power of the General Aſſembly: They have, however, been ſo long acquieſced in, that they have paſſed into laws of conſuetude, without neceſſity of freſh enactment every Aſſembly, according to the ſtated mode of the exerciſe of this proviſory power.

The Scots clergyman is bound to reſidence; and his charge can be declared vacant, upon ſix weeks abſence, without leave to that effect, obtained from his Preſbytery: He can hold only one benefice. A degree of exception, is, however, very properly admitted, as an excitement to literary effort, in regard to holding Profeſſorſhips in Univerſities; when theſe are removed at ſuch ſmall diſtance as not to obſtruct, in any great degree, the performance of parochial duties. The ſtated parochial duty of the clergy, are thoſe of public prayer, and preaching every Sabbath: The prayers are never read, and ſermons very ſeldom—a cuſtom which, no doubt, admits of more animation in the ſervice; ſubjecting it, however, to every variety in performance, according to the various abilities, or accidental ſtate of ſpirits in the adminiſtrator: The cuſtomary diſcourſes, are two every Sabbath, and often three in Summer. The miniſter alſo adminiſters the ſacraments of Baptiſm (taking the father ſponſor in preference to any other), and of the Lord's Supper; the latter, at leaſt, once yearly, and ſeldom more often: He generally cat-chiſes, too, through his whole pariſh, once a year; and,

next

next year, formally visits, giving exhortations, both on week days : He, besides, occasionally visits the sick ; and, among the poorer classes; generally acts, in some measure, in the capacities of lawyer and physician, as well as of divine. Marriage is valid, in Scotland, as to all civil effects, without the adhibition of Ecclesiastical ceremonies, or the publication of banns in the church.

I shall conclude this note, by just observing, that the division into parishes refers also to the statute labour, assessed parochially : This simple mode of making and upholding roads, seems the first that has been devised by almost every nation, before adopting the much more preferable one of a toll, levied from the passenger. As compelled labour turns, however, to very little account, this service, as well as most other personal services, has been almost universally, through Scotland, commuted into money payment, at a very moderate composition.

 NOTE B.

As the Scots law preserves a strict analogy to the feudal system, it may be proper, shortly, to state the leading features of that system ; that the nature of Scots tenures of land may be rendered more generally intelligible.

Before the complete establishment of the feudal system, the lands would seem to have been divided, in large portions, among great families, the heads of which possessed all the rights of independent sovereignty within their own territory ; living in a state of constant hostility with one another, and incapable of union, excepting a transient one, under the most respected military leader, when national attack required such coalescence, for the purposes of national defence.

In such circumstances, public utility must have soon pointed out the necessity of a permanent union of the whole states under one supreme power, to which all the rest should be subordinate ; and that, not only for the purposes of national defence, but for the preservation of internal tranquillity, by the suppression
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of the right of private war or feuds. Such views led to the establishment of the Regal power in one family, under which the other powers were united, upon terms of union more or less strict or loose; the public advantage, as well as the private ambition of the Monarch, both leading to the gradual extension of this supreme power, that the whole force of the state might be thus concentrated, so as to act with energy, either against foreign enemies, or for the domestic protection of its own members.

In following out these views, the great landed proprietors, originally independent, were all, in various ways, reduced to a military dependence upon the Crown as their superior; holding *thence* their lands upon condition of the military service of themselves and their retainers, and of their personal attendance in the Court of the Monarch, for the purposes of granting national supplies, and of enforcing the due execution of the laws*; the only constitution conformable to the manners of the times, which could give unity and consistence to a State.

These great barons, the immediate vassals of the Crown, assigned, by a subinfeudation similar to their own mode of tenure, portions of their lands to their military retainers, as *fees* granted them, upon condition of their personal military service at the call of their immediate superior, and of homage and attendance in the baron's courts.

In those times of turbulence, when no security could be enjoyed, but under the protection of a military head, upon condition of military service, *allodial*, or independent property in land, could not long remain an eligible mode of tenure: And, accordingly, it may be readily presumed, that proprietors of this description would find it necessary to renounce such a tenure (however eligible it might appear in our times), by resigning their lands either to the Crown, or to some powerful baron as superior, to be held thenceforward from such superior, upon the reciprocal conditions of protection on the one hand, and military service upon the other.

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* Hence the origin of the House of Peers, and their right of attendance *per capita*, and not by representation.

In this manner, the whole state came, in process of time, to be entirely united into one mass, by a regularly connected chain of military dependence and subordination.

At the original formation of Monarchy, it is extremely probable, that many of the great barons were in a state of power to enable them to make terms with the monarch, in subjecting themselves to him in military subordination; and that, though, upon the perfect establishment of the feudal military subordination, the tenure of their lands assumed the appearance of *fiefs*, or *fees*, for military service, yet their lands were never held during the mere good pleasure of the Monarch, but were, from the first, considered as held upon hereditary right. In regard, however, to subordinate fees, or fiefs of land, they would seem at first to have been held only during the good pleasure of the superior. But as the military chief would seldom eject his companion in war, unless for failure of service due; and would, in general, be inclined, upon the death of his vassal, to continue his heir in the possession, if fit for military service; or even, during the heir's minority, to accept of a substitute till he came of age; it would seem natural, for these reasons, that, in use and practice, *fiefs* should gradually come to be considered, first, as possessions for life, and at length as hereditary; a fine, it would appear, being accepted of by the superior, to induce him to accept of the heir for his vassal*. Such would seem to have been the gradual extension of the right of property in their lands, which military vassals progressively acquired. This extension of their right would seem to have been confined to the possessors of fiefs of considerable extent, enabling their owners to bring several retainers into the field, and themselves to maintain such a rank, as put them upon a companionable footing with their superior. It is probable, no such privilege was generally granted to the possessors of land fees of such small extent, as compelled the possessor

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* This present, amounting generally to double the feu-duty, is still retained as a feudal casualty, due to the superior upon the accession of an heir.

feffor to be the immediate cultivator of the soil, and to appear singly in the ranks as a soldier, without any retainers under his command. Forming our judgement from inference, in a matter where few facts are upon record, we can hardly conceive how the absurd ideas (pervading the Scottish law, and the mode of thinking among Scottish proprietors of land), in regard to the importance of the proprietor's right of a *delectus personæ*, as to the lease-holder cultivating his ground, could have originated; excepting upon the supposition, that these more inconsiderable *seoffees*, last mentioned, never acquired permanent property in their lands, but were, gradually through change of manners, moulded into mere farmers; a class valued by the landed proprietor, merely as conducive to his profit; and to whose constitution, military feudal notions have no applicable reference, but that which may have continued associated, in consideration of such an original.

As monarchy rose in strength upon the ruins of aristocracy; and a regular disciplined military force, supported by taxation, began to be substituted to the unmanageable mobbish military service, for external defence, and internal police; the Crown, or Great Barons, as superiors, would find themselves nothing the poorer, in dispensing with this military service, for which there was no farther occasion, and were easily induced to accept of an yearly feu, or quit-rent, in place of it. In regard to the Crown, this commutation money of the military service was probably the earliest form of a general land tax*.

During

* This yearly feu-duty continues as one of the feudal rights of superiors over the lands that hold of them. In progress of the right of alienation acquired by vassals, though this feu-duty must still in form be retained, in order that the right may be duly constituted, in conformity with the feudal ideas of Scottish law; yet the feu-duty came to be reduced to a mere nominal payment, or quit-rent; and such holdings obtained the name of *blench-holdings*. When the superior, probably for a valuable consideration, thus chose to emancipate his vassal, by giving him a blench-holding, the wit, or sportivity of the times, was sometimes displayed in the nominal prestation retained; such as, the obligation upon the vassal, to give so many blasts of a horn when his superior should pass his manor, to dance before him, to entertain him with a haggies, &c. &c.

During the actual continuance of personal military service, a *delectus persone*, or right of choice in regard to the person who was to be his military vassal, was a matter of the utmost importance to the superior, as a military chief. In such circumstances, it would have been obviously absurd, that the vassal should have had a right vested in him, of substituting another person to serve in his stead, by the voluntary alienation of his fee; or even that the land thus given him by his superior, in mere use, and as a retaining fee for his personal service, should be considered capable of being evicted, as a property, by the creditors of the vassal. But, upon the abolition of personal military service, superiors could feel but little interest in this matter; and, accordingly, the power of alienation was gradually assumed by the vassal, through toleration of the superior. As this, however, was no doubt considered as an higher degree of indulgence from the superior, than his allowance of the transmission of the fief by hereditary descent to the vassal's heir (who seemed to have a sort of natural claim to continuance of possession), it is probable this right of alienation was longer in becoming a matter of common usage; an higher fine, too, would ever be exacted by the superior, to procure his consent to the acceptance of a stranger, than what he required as a consideration for continuing the possession to the natural heir*.

Whilst land was possessed by the vassal, merely as a fee or benefice for personal military service; till once the minor was fit for such service, the superior had a *delectus persone* in the substitute to serve for him; and the benefice, meanwhile, reverted to the superior, till the minor should attain to majority, burdened only with the minor's aliment. As it was of the utmost importance to the superior, that his vassal, particularly if a female, should not form dangerous connexion with his enemies by marriage, the *delectus persone* was therefore infer-
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* This fine, upon the admission of a stranger, or *singular successor*, is still retained among the feudal casualties due to the superior: One year's rent of the subject is sometimes exacted; but, in general, superiors compound for less.

red to convey a right of interference in this matter; and the superior's consent was held necessary to the validity of his vassal's marriage. These rights over the estates of minors, and in regard to the vassal's marriage, constituted the superior's right of *wardship*. So long as the *delectus personæ* continued to be founded in the reason of the thing, these rights of wardship were cheerfully acquiesced in; but when, upon a change of manners, and of the state of society, the superior ceased to have any other than a mere pecuniary interest in his vassals, they came to be considered as the source of great oppression. The tutory of minors estates came, *then*, to be conferred by the Crown, or other superior, to needy dependants, as a mean of repairing a ruined fortune; and the havock committed on estates under tutory, seems repeatedly to have called for the interference of the Scottish Legislature, in acts, to prevent the commission of such abuses. The female ward would also frequently be exposed to grievance, in being disposed of in marriage by the superior to the highest bidder, without consulting her own choice. As the oppression of wardship came to be more and more felt, it is probable the superior's right would come in use to be compounded for in money payment; the Legislature also, more and more, interfering to regulate its exercise. The final abolition of the hardships of ward are, in Scotland, of so late a date, as the act of Parliament 1748.

In this manner, the right of superiority gradually arose, from the circumstances of society, and extension of analogy; and, in like manner, was it gradually circumscribed, in consequence of a change of circumstances: Till, at length, the right of the vassal, from being held merely at pleasure, and from being strictly personal and beneficiary, came to be perpetual, patrimonial, and hereditary, every way alienable and transmissible; or, in short, entire property, subject merely to annual feu-duty, and the other feudal casualties.

During the actual existence of the feudal state, the superior alone figured in the imagination as the proprietor of the lands.

lands *. When, however, the vassal had obtained an hereditary right to his lands, with unrestricted powers of alienation, subject merely to the feu-duty and other casualties incidentally due to the superior; he was, to all intents and purposes of human life, *the proprietor*. And the question came to be, "In what light the originally more important right of the superior fell to be viewed?" The sonorous law distinction was invented, of *dominium directum*, to denote the right of the superior; and of *dominium utile*, to denote the right of the vassal—technic designations, which never were adopted, or have fallen into disuse, in common language; in which the right of the superior is called *superiority*, and that of the vassal *property*. From the impression of ancient usage, the right of superiority has been considered, in the eye of Scottish law, as the more noble of the two; and, accordingly, superior advantages have been bestowed upon it, both as to security of possession, and as to ease and preference of recovery.

Amidst the struggles of monarchy against feudal tyranny (the final success of which has proved the epoch of emancipation, and of the extension of the protection of law to the lower orders), Royal burghs (which had been gradually withdrawn by the communication of privileges from the Crown, from their dependence upon the great barons) were called upon to send representatives to the King's Court of Parliament, in order to balance the power of the Nobles, formidable to the Crown and to the internal peace of the country, and to nothing else. For the same reason, the lesser barons, holding of the Crown as superior †, who had been excused the service of personal attendance in the King's Court, from their inability
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* Till within these two centuries, the vassal is not designed *proprietor* in the Scottish acts of Parliament, but retains the designation of *tenant*.

† Composed, probably, of those to whom the King had feued out portions of his own personal domain, or of the domains of such nobles as had forfeited them to him by their rebellion; and perhaps, too, of such originally allodial proprietors as had, in their choice of a military protector, resigned their lands in vassalage to the Crown, in preference to any other military chief.

to bear the expence, were also summoned to appear by representation; and, by use or statute, the possession of lands holding of the Crown, valued in the county cess-books at 400l. Scots, or valued at 40s. of old extent, was, and is the qualification *subjecting to the burden* (according to former notions), or *entitling to the privilege* (according to modern views) of representing, or being represented.

The Crown could call upon its own vassals to balance the power of the Nobles; it could expect no such support from the vassals of the Nobles themselves: And, accordingly, landed proprietors, holding their lands in vassalage from subjects as their superiors, were not called upon to exercise, and have not obtained any right of representation. In respect of this right of representation, all lands holding immediately of the Crown as superior, are designed *freeholds*.

In the progress of arts and manufactures, new modes of expence were opened up; and the funds in the hands of the great barons, formerly employed in supporting that magnificence, which consisted in the number of military attendants, were diverted to the purchase of the productions of the fine arts; the same vanity, formerly displayed in a numerous retinue of armed followers, often leading its possessor to barter power for personal decoration, and to part with the command over men (to use Dr Smith's illustration) in order to become proprietor of a pair of diamond buckles. The great barons were laid under new temptations of contracting debts, and of relieving themselves, by selling portions of their landed property. In all feudal states, advantage was taken of these propensities in the nobles to weaken their own power. The Crown used all its influence in encouraging the alienation of the estates of the nobles: And, in order that every alienation should furnish the Crown with a new freeholder or lesser baron, regulations were, in various countries, enacted as to the mode of investiture of these new purchasing proprietors; by which the practice of subinfeudation, of the buyer in vassalage to the seller, as his superior, was prohibited; and the land sold was made to hold, by consequence, immediately of the
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the Crown as superior. Unfortunately, our Scottish monarchs either overlooked the propriety of such regulations, or possessed not sufficient influence to enforce their adoption: Accordingly, there is no law in Scotland preventing the disjunction of superiority from property. A whole property may thus be sold, whilst the feller, by subinfeudation, makes the buyer hold of himself; the feller, meanwhile, continuing vassal to the Crown for the lands sold. And, as this retained right of freehold from the Crown may be divided and disposed of, in as many portions as the valuation of the lands can afford of freehold qualifications, hence it comes, in Scotland, that mere superiority is sometimes alone represented, whilst real property enjoys no right of representation.

The right of franchise is thus confined, in Scotland, to the great Barons or Nobles, appearing in the Scottish Parliament *per capita*, but, since the Union, by sixteen representatives in the House of Peers; to the Landed Electors, often merely superiors, but not proprietors, who send representatives from the counties to the House of Commons; and to Royal burghs, who send representatives to the same house.

The Scottish law has hardly as yet been brought to recognize any other mode of holding land in perpetuity, but the feudal tenure: A mode of holding which is very expensive, and which comes to be very oppressive in the case of small landed properties, particularly where these have been purchased for the purpose of erecting upon them expensive buildings; as every heir by succession, and every purchaser by sale, in order to complete their titles, so as to have the full command of their subject, must not only pay the feudal casualties due to the superior from the heir or singular successor, but must also be exposed to the expence of precepts of *clare constat*, charters from the superior, and infeoffment upon the charters; deeds executed upon papers or parchments paying high stamp duties, and accompanied with formalities of expensive execution. These deeds are equally expensive, whether the subject be worth 20s. or 20,000l. of yearly value; and though Government,

vernment, in the stamp duties upon receipts, promissory notes, and legacies, have properly apportioned the price of stamp to the value of the transaction, no discrimination of the difference in value of the subject is made as to the stamps for deeds ascertaining the titles to perpetual landed property *. In the village of Linton, where the inhabitants hold each his small possession in perpetual property, by all the cumbrous and expensive formalities of feudal tenure (like so many fishing cibles moored by the anchors and cables of first rate men of war), I have known a cot-house, with its kale-yard, both not worth 20s. of yearly rent, cost three times the value of the fee-simple of the subject, in expence of conveyance, and of making up of feudal titles, in the space of eighteen years;— a tax upon the commerce of small properties in land, almost equally oppressive as the Spanish tax of Alcavalla upon other merchandise. In cases where manufacturing villages have been erected upon ground purchased in perpetual property, the feudal casualties of the superior come sometimes to be peculiarly grievous; when, after the alienation of expensive buildings, to the erection of which the superior contributed no share, upon ground originally worth nothing, the purchaser (who probably was aware of no such sleeping claim) is called upon, as a singular successor, to compound with the superior of the ground, by a whole year's rent of his subject. A case of this kind was, within my own recollection, warmly litigated betwixt the superior and the inhabitants of the manufacturing village of Airdry, in Lanarkshire. But, though it seemed generally wished, that an exemption, from the burden of feudal casualties, could have been admitted, in a case bearing no sort of analogy, even in original purpose, to feudal practice; yet, our Supreme Court found itself obliged, in strict conformity to the principles of Scottish law, to decide in favour of the claims of the superior.

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* There is the same want of distinction proportioned to value, as to the stamps for written leases.

The small territories, lying within the jurisdiction of Royal burghs, are the only perpetual properties emancipated from the burdensome formalities of feudal holding.

It were to be wished that simple and unexpensive modes of holding landed property in perpetuity, similar to burgage holding, were rendered more general for properties of small value. It might, at same time, be very inexpedient to abrogate entirely feudal forms, however foreign to present circumstances, commuting the feudal casualties upon a fair valuation, as in the case of tithes. In regard to properties of such magnitude as to afford the expence, these forms may be considered as of considerable utility; inasmuch as they are appropriated forms, to which long usage has given a steady and a determinate signification—a circumstance of more importance than many seem to be aware of*.

The tack or lease, renewable at the termination of certain periods, upon paying a small or mere nominal specified fine to the proprietor as superior, is the simple unexpensive mode of holding, which the late Lord Gardenstone has devised for

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* To allege, that a change in the forms of conveyance would prove ruinous to that respectable class, who, it is said, live as a tax upon property, by blotting paper in the multiplied forms of conveyancing, is very absurd. Were we to suppose the modes of holding and conveyancing reduced to the utmost conceivable simplicity, yet, if they were only formed of a nature sufficiently pliable to be easily accommodated to that endless diversification of rights, in all their supposable varieties of original constitution, transmission, and subtransmission, for which a demand might arise in a busy and industrious state of society; a necessity would then be created for the separate profession of the conveyancer. The arrangement and classification of these rights, in all their actual and supposable varieties, must constitute a distinct science; requiring, as other sciences, a clear theoretic head, to form such general rules of practice as should prevent all entanglement and confusion.—If the expence of conveyancing were more moderate, there would be more frequent demand for the employment of the conveyancer: The present high expence of conveyancing brings it under the rule of Dean Swift's arithmetic of taxation, where two and two produce, not four, but one. The same may be said of stamps, where no proportion is held to the value of the subject. The parties will often rather trull to the security of mutual good faith, than incur the expence of a legally constituted security.

the feuars in his village of Laurencekirk. It is with difficulty, however, that the Scottish law (bigotted as it is to the antiquated usages of feudalism, notwithstanding the absurdity of forcing *them* into coalescence with modern manners, to which they bear no sort of analogy) has admitted the tack as a mode of holding land in perpetuity. In Scottish law, it is considered as indispensable to the nature of a tack, that it shall have an *ib*, or term of expiry; and the want of an *ib* is, in legal construction, an irritancy of the tack: It is also constructed into an irritancy, if the yearly rent, specified in the tack, is merely nominal and illusory, and is not somewhat adequate to the value of the subject. It was in order to propitiate the prejudices of old mother ancient, the Scottish Law, that Lord Gardenstone devised his tack for his villagers,—in reality a perpetual right, though under the semblance of an expiring one. And it is to be hoped, that our Judges, in the exercise of their *nobile officium* of interpreting law according to equity*, will endeavour to mollify the manners of the venerable matron, and lead her to recognize and extend her protection to this new species of right; constituted, in fact, after

* The political axiom, of the necessity of separating the Legislative from the Judicial powers, though just in general, must yet be understood with many grains of allowance. In the unceasing changes which the state of society undergoes, laws, highly reasonable at one period, come to be inapplicable in a subsequent one; and would be productive of much inconvenience, if literally enforced, and not equitably interpreted. But no Legislature can, with becoming steadiness, interfere to make new laws upon every partial feeling of grievance; nor until the old are found, unequivocally, to be universally oppressive: The equitable interpretation of the Judge is the only remedy suited to particular cases. Such power of dispensing with law, would be dangerous in the hands of a single Judge. In England, all fear of danger is removed, by the intervention of the Jury, in civil causes. The Supreme Court of Scotland, as formerly observed, constitutes the Grand Jury of the nation in civil causes; they have ever assumed a *nobile officium*, in interpreting law according to equity; nor has this power ever been exerted, but for the manifest advantage of the subject. Almost the whole security enjoyed by the Scottish cultivator of the soil, has been gradually extended to him by liberal stretches of our Judges, in their equitable interpretation of law; which, in its letter, is not very favourable to his security.

after a fashion to which she has not been accustomed; but, in the outward form of which, such seemly deference has been paid to her habits, by the *fictio juris*, or the *quasi*.

Some attempts have been made of forcing her to recognize the tack as a right of perpetuity, in its native undisguised shape, and without attempting to introduce it under cover of the wedding garment of feudality. A tack for ever was sustained (Wight against Hopeton) in 1763. The sentence was not, however, decisive of the general principle; but proceeded merely upon the specialty of *the challenger being debarred from the action by a personal objection against his title to challenge* *. In 1760, a tack for 1260 years was sustained, upon general principles, by the Court of Session. An opposite sentence upon a similar cause, had, however, previously been reversed by the House of Peers in 1758. In the uncertainty of all human affairs, a possession for 1260 years may be well reckoned equivalent to a perpetuity; and, where manufactories are to be erected, and the ground to be improved to its utmost possible extent, by the accession of valuable buildings, it would certainly be expedient to take advantage, either of this, or the formerly mentioned species

* From the number of judges in the Scots supreme civil court acting as a jury, the same steady tenor of uniformity of principle in their decisions, is not to be expected, as in the English courts, where a single judge presides and directs the decision of juries, by his reports upon the case. A single person, of abilities, naturally forms a consistent theory; and the practice consonant to it may be established into uniform precedent, from the facility with which juries will ever allow themselves to be directed by a judge of established integrity, and of acknowledged intellectual ascendancy. In this way, the system of insurance laws has arisen, from the decisions of Lord Mansfield. Indeed, in such circumstances, a judge is not shy of bringing forward his general views, and, without hedging himself behind specialties, is ready, like Lord Kenyon, to lay down his general principle of decision in each particular case. In a jury of judges, where no ascendancy of this nature is acknowledged, there may be rivalry of system, and a shyness of entering into systematic contentions. This may be one reason why our courts are reckoned more ready to found their decisions upon the specialties of the case, and more scrupulous of deciding to the establishment of general principles. To establish general principles as to the interpretation of law; particularly where an equitable interpretation has come to be expedient, approaches somewhat to the nature of legislation; and requires, no doubt, legislative caution and deliberation.

species of tack-holding, if the decisions in their favour can as yet be sufficiently depended upon, as forming a steady general rule of precedent.

Besides their contrariety to the accustomed mode of holding property in perpetuity, one great argument of those who have attempted to impugn the validity of tacks of such long endurance, was, the danger of invalidating the faith of the register of landed property *. In how far such tacks might indeed affect the

* It may be proper, for the information of the English reader, to give, here, an account of that singular institution in Scotland, which gives such security to commerce in land, *the Register of Sasines*.

After a variety of regulations in regard to protocols, or books kept by public notaries, which, in Scotland, (as at present over the Continent), were the only preservatives of deeds, from whence authentic copies could be procured, in default of the originals; and, after various attempts at substituting something better in their room, continued from the year 1450 downwards --- At length, by act 22d of James VI. chap. 16. amended, in practice, by interim acts of the Court of Session, (which has ever assumed a sort of by-law power in regulating the forms of conducting business), as also amended by subsequent acts of the Parliament itself, the idea of a general register, of authentic faith, and equally accessible to all having interest, for all transactions relative to perpetual rights upon landed property constituted in the form recognized by the Scots law, was finally incorporated into the body of the law itself; a system, bestowing as great security upon the commerce of lands, as human ingenuity could probably have invented.

For general accommodation, particular registers are kept for counties, (two or three counties being classed together, and having a common register); and a general register is kept in Edinburgh, in which it is competent to register deeds from any part of Scotland. In one or other of these, all deeds affecting land, as real rights, and constituted by infeftment or sasine, whether in the way of complete transference, or merely of pledge, must be engrossed *verbatim*. The registration must take place within sixty days of the execution of the deed, without which, the deed becomes invalid. If there are two such deeds of sasine upon the same land, the one prior in execution, but posterior as to the date of registration, the other posterior in execution, but prior in registration; the latter hath, by law, the preference. Every person wishing to lay out money upon land, either in purchase, or lending on mortgage, or sinking it for an heritable annuity, has access to consult these registers; in one or other of which, he is certain of obtaining information how far the land is already affected by any deeds of a similar nature. As the county registers are filled up, they are transmitted to the Edinburgh Register Office for preservation. An action is competent against the keepers of the registers,

the faith of the register—in how far this might be prevented, by enforcing the registration of tacks, of a certain length of endurance—or, in how far such multiplicity of registration might not tend to inextricable confusion, of which there is already sufficient danger, from the multiplied registrations of titles to superiorities, divided and consigned for the purpose of creating fictitious or real election votes --- these are matters of discussion for those more intimately acquainted with the subject.

There is, in Scotland, no vestige of that simple, unexpensive tenure of land, so frequent in England, called *copyhold*; excepting only the four towns of Lochmaben *. There are, indeed, lands

if the deed is not registered within a limited time after it hath been presented: And to prevent the registration of deeds in any other order of priority, than that of their presentation, a minute book is kept, in which is inserted a general description of the deed, with the date of its presentation to be recorded; which minute is subscribed, both by the presenter of the deed, and by the keeper of the register, as a check against falsification. The judges of the Court of Session, too, (under what check to secure vigilance I know not), are required and empowered, when they please, to call for both the register and the minute-book, to see that they accord, when compared together. In short, by contrivance of so many checks, this matter seems brought to all the perfection of which it is susceptible.

This high degree of security has, it is believed, since generally known, brought a considerable influx of English money into the Scottish loan market—enabling, probably, the Scottish merchant and manufacturer to borrow money on somewhat easier terms. --- Honest John Bull, with all his puffing affectation of superiority, would do well, in several instances, to take a lesson from his sister Peg.

The Athenians, as we learn from the *Travels of Anacharsis*, had fallen upon a very simple idea of a register. A stone, on which the nature of the right affecting the land was engraved, was set up in some conspicuous part of it; without which publication of the deed, it is probable the deed was of no validity against third parties, any more than Scottish deeds unrecorded in the public register.

* There were, indeed, in Scotland, as in England, rentallers, or kindly tenants, around the mansions of the great proprietors, consisting generally of relations of the family, who held their lands, not by military tenure, but for very moderate rent, in money or in kind; and who were in use to succeed from father to son; the simple evident of their title being a mere registration in the books of the Lord of the Manor, without any of the expensive formalities of the feudal tenure.

lands of a certain description, in Orkney and Zetland, which, by a particular statute, are privileged to be held by *udal* (probably *allodial*) tenure; exempted from all the expensive forms and casualties of feudal holding; 'to save' (as expressed in the statute) 'the expence of renovation of rights and infeofments.'

Having thus given some account of those tenures by which lands are held in perpetuity, I shall proceed to make some observations upon the constitution of that temporary right of holding, by which the actual cultivator of the soil possesses for agricultural purposes, namely,

The Tack, or Lease.

This species of tenure hath not obtained, in Scotland, the designation of *property*, or *estate in land*.

In times of turbulence, the military chief, and his armed retainer, were of principal importance, and alone figured in the imagination. The record of them has, accordingly, been more clearly preserved, and their progressive history can be more accurately traced; till the right of the former terminated in

tenure. These rights were in train of acquiring complete validity, from custom, as in England; when their possessors, as in England, would have become copyholders. Their progress towards confirmation, was, however, checked by the Reformation. At this period, the lands of the Church, being seized by the Crown, were disposed of to court favourites; and these new proprietors, having no kindly connexion with the churchmens kindly tenants, universally ejected them—a precedent, which made all similar rights be immediately called in question: when our law courts, after being much puzzled how to act in a case entirely new, at length interpreted them, according to the circumstances of each case, into leases for life, or for certain terms of years; so that they have all, long since, expired. The rentallers of Lochmaben alone escaped; owing to the lateness of their superior's application for their ejection, which made his long acquiescence be interpreted into an homologation of their right to possess as they had possessed hitherto.

Many of these Lochmaben rentallers, we are informed (*Statistical Account*, Vol. VII. page 240), can instruct the possession of their lands in their families for 500 years; and may, therefore, in point of antiquity, though probably not civilized manners, vie with most of the nobles of our land.

in the present mere *superiority*; conferring only political power, but without profitable use of the lands; and that of the latter, in the *property*, or valuable use, with the full command of the subject. The history of the actual cultivators of the soil, of more importance than that of either, as to the increase of its powers of production, is involved in impenetrable obscurity: from the want of record, we can, however, safely infer, that their statement was, originally, mean, unprivileged, and despised.

It seems extremely probable, that the lands, occupied by the military chiefs, or their more considerable military retainers, were originally cultivated by slaves, who had no interest themselves in the produce, but were compelled to labour under overseers, at no expence to their master, but merely that of their maintenance. But as men are not easily brutalized into the quiet passivity of labouring cattle; as their superior powers of memory, comparison, and judgement, are apt to kindle their feelings into permanent passions, dangerous to their tamers, in proportion to their superior reach of contrivance; it would seem to have been found expedient, in Scotland, as in every other country of which we have more distinct record upon this subject, to admit the slave into a participation of interest with his master, in the produce of the soil*.

To

* The lands of the Romans were originally cultivated by slaves. And it is surprising, that, under such a mode of culture, their agriculture should have so much excelled. Having no commerce, there was no other road to wealth and comfortable subsistence, but the most accurate cultivation of the soil. The superintendance of the proprietor seems accordingly to have been so very constant and minute, as to palliate, in a great measure, the evils of such a constitution of cultivation. Superior accuracy of superintendance might become equally the test of superiority; as is the same accuracy in doing business, in our manufacturing and commercial towns.

The inconveniences, however, of this system, made it gradually give way to a better: Slaves were admitted to a copartnery interest with the master: Their slavery was first mitigated, in their being made *adscripti glebe*, like the peasants in the Northern parts of Europe; so that they could not be torn from their families,

To stimulate the slave's industry, a sense of interest was found a more powerful motive, than the fear of punishment. He was therefore no more confined to his mere maintenance, but obtained the privilege of being capable of acquiring and transmitting separate property of his own; and was admitted into a joint copartnership interest, with his master, in the produce of the soil which he cultivated: The master provided cattle, feed, and instruments of labour, and the *villaine* received the half of the produce, after deducting what was necessary to replace, or repair, the stock which belonged to the master. The villaine, however, could have small inducement, when capital accumulated in his hands, to fix any of his own capital in improvements of the land: The sharing of the master, to the extent of one half of improvements, so effected, would have been an effectual bar to the attempting of such improvements; besides that, probably, the villaine's security of endurance of possession was not such as to give him assurance of even this proportion of a suitable return. To give, then, a rational inducement to the cultivator, to launch out his own capital in the improvement of the soil, various encouragements would be given; till the cultivation of the land was at last brought to its present footing; as undertaken by farmers, properly so called, hiring the use of the lands from the proprietor, at a specified rent, and for a time certain, and cultivating it entirely by the outlay of their own capital: The various progressive steps of this amelioration of the system of cultivation, is, however, nowhere distinctly recorded.

In gradually communicating privileges to the cultivator of the soil, it seems reasonable to suppose, that the mode which would most obviously occur, would be, to follow the analogy
of

or sold separate from the land: They were afterwards made *coloni partivarii*, like the *metayers of France*, who cultivated by means of the proprietor's stock; receiving one half of the produce, after replacing the stock; and leaving the stock behind them, upon quitting possession of the land. The author of the *Wealth of Nations* conceives, that the West Indies could not afford the expence of unproductive slave culture, but for the superior value of their kind of produce.

of that mode by which the privileges of military tenants had been enlarged : And it is probable, that the prosecution of this analogy, joined to the reasons already suggested (page 282), might lead to the adoption of the absurd notion of the right of a *delectus personæ* being essential to the proprietor of the lands—a constitution which considerably weakens both agricultural credit and enterprize, but which is so interwrought into our accustomed habits of thinking, that most of proprietors, and business-men of the law, with their feudal-ridden imaginations, adhere to it more tenaciously than to any other article of their creed. Accordingly, we find, that, as military tenants, at first, became tenants for life, from being tenants at will ; so, the first notion, of giving the security of independence to the cultivator of the soil, in Scotland, as elsewhere, was to give him security of possession for life. The liferent tack seems the first adopted species of tack-holding, rendering the possessor independent, his situation respectable, and his rights and interests regarded : Superior privileges were accordingly bestowed upon the liferent tack ; the property in this tack was, and is, considered to be so complete, as to imply the full power of its alienation, in defiance of the proprietor's supposed essential and inherent right of the *delectus personæ* ; and, when granted to a woman, was not considered as forfeited upon her marriage, as implying assignment contrary to the proprietor's right of *delectus*, in consequence of its falling under the husband's *jus mariti* ; although such is the absurd construction of Scots law, in regard to the effect of a woman's marriage, upon a tack for definite time, to which she should fall heir by inheritance, or even, perhaps, acquire by personal contract. The period of nineteen years, seems, in Scotland, to have been considered as equivalent to the life of a person of age to enter upon a liferent tack ; and, from this analogy, various privileges, originally communicated to the liferent, would seem to have been extended to this species of tack. As nineteen years may, however, be considered as a favourable exchange for a liferent, this is probably the reason why the Scots tenant seems to have generally preferred this security ; inasmuch, that the mention of a tack, without

specification of the term, in common habit suggested the idea of a nineteen years lease. The privileges granted to cultivators, by legislating proprietors, seem to have been granted slowly, with reluctance, and to no greater extent than what obviously indispensable utility required: A short-sighted avarice wished to grasp at the fruits of the cultivation effected by the tenant's stock, as speedily as possible; even so prematurely, as to allow no sufficient security of time for their being effected at all: And the genius of law seems to have been universally inimical, both in modern and in antient nations, to the long duration of leases, which seemed to keep back the proprietor from reaping the benefit of the increased value of his property*.

When subsequent views of utility suggested the propriety of tacks of still longer duration, they were ventured upon with timidity, as an extension of a species of tenure, to which the genius of law was unfriendly; which, as yet, she had not recognized to that extent, and which she might be scrupulous in functioning. Such tacks, therefore, sought shelter under the form of the privileged tack of nineteen years, which had acquired an analogical stability, and whose talismanic influence was thought able to protect them: The whole term meant, durst not be avowedly expressed; but the tack was granted for two nineteens, or three nineteens of years, till the number of years proposed should be completed in nineteens.

Originally, the cultivator's right of possession was considered as only *personal* in regard to the proprietor, but not as a *real* right

* Till the days of Justinian, the legal term of a Roman lease was only five years. The tenant could also be ejected by an heir, or a purchaser of the lands. In France, a lease had no security from law but for nine years, till 1775; the security was then extended to twenty-seven years—Whether the ephemeral decrees of her late Assemblies, affecting legislation, have ever reached this subject, I know not; or whether they were so occupied with constitutions, or the forms in which business was to be carried on, as to have found no leisure to do any business at all; or whether they restricted themselves totally to demolition, upon the Godwinian principle, that establishment, implying stationary stability, was in diametric opposition to improvement, whose very essence consisted in an unsettled progression.

right in the soil. His right, then, terminated upon the cessation of the proprietor's right of property, whether by death or alienation; by the succession of an heir, or of a purchaser; and the heir, or the purchaser, could eject him. By act of the Scottish Parliament, of so early date as 1446, he was secured for the whole term of years specified in his lease, in whomsoever the right of property might come to be vested, whether heir or purchaser.

Originally (in consequence, probably, of the whole stock of the farm being the property of the master; probably, in part, owing to the undistinguishing nature of the policy of barbarians, which, in other instances, made the first merchant of a nation, that could be seized, answerable for the debts of the other merchants of that nation; or a whole family punishable for the crimes of its head), the whole crop and stock upon the farm could be at any time pointed and swept away, to satisfy the debts of the proprietor of the lands: And this would appear to have continued, as the law of consuetude, even after the lands had begun to be cultivated, by the outlay of the tenant's own proper capital. This change of the mode of cultivation, evidently demanded a change of the law: And, by act 1469, the tenant was secured against such hardship; it being thereby enacted, that the crop and stock should not be liable to the creditors of the proprietor, excepting in so far as the tenant was indebted to him in rent, by the terms of his lease.

Two such remarkable statutes, enacted at such an early period, and within the space of twenty years, show the early introduction, and the rapid progress of the change of system of cultivation, from that of villainage to that of freemen, cultivating by their own proper outlay, and at their own risk.

The act 1469, in its literal sense, is indeed universally understood to have gone no farther, than to secure the tenant from being attached, in this manner, for the *personal* debts of his landlord; but is not understood to have given him any relief, in regard to the *debita fundi*, or *real* debts, for which the

the land itself had been pledged*. Accordingly, so late as 1628, a decision appears upon record, in which the goods of the tenant are found liable for payment of annualrent, constituted by infeoffment and salfine, in all the years and terms due to the infeoffee, preceding the date of the pointing, and also for the current term's rent; 'although the tenant, at the time, shall owe no rent to the proprietor, in terms of his lease.' By a liberal interpretation, however, of this act, now perfectly established in practice, the tenant is secured against all debts of the proprietor, except in so far as he is indebted to him by his tack; so that, though the proprietor's heritable creditors may force him to pay sooner, they cannot force him to pay more than the proprietor would, or could have done.

The tenant's own property is thus completely secured by the operation of these two statutes; in the liberal manner of their interpretation, through the *nobile officium* of our Judges, in interpreting law according to equity, which has supplied the deficiencies of our law—(See foot note, page 290). The tenant's own personal creditors are left, however, in a more precarious situation; to the considerable diminution of the extent of his credit, in enabling him to borrow money to carry on his improvements. Wherever land is appropriated, it is probable the proprietor, on leasing out his lands, has ever possessed, in right of hypothec, a preference over all other creditors of his tenant, for at least one year's rent, upon the crop and stock; and it seems highly reasonable, that he who furnishes the land, which is the *sine qua non*, should ever enjoy this extent of preference.

There

* When a proprietor pledges his land, in security of an annualrent, or of the payment of principal and interest of borrowed money, he places the annualrenter, or mortgagee, precisely in his own situation, according to the forms of the feudal law, as proprietors *quoad hæc efficitur*.

He, accordingly, symbolically divests himself of the property, by symbolical resignation of it into the hands of a person constituted to represent the superior; from whom the annualrenter, or mortgagee, receives symbolical redelivery of it by infeoffment. The transaction is attested by the notarial written deed, called *sejone*; which, to give it validity, must be enrolled in the public register of *factes*.

There seems, however, no good reason, why the superior, or other creditors of the proprietor *in debitis fundi*, should enjoy—not only the same extent of preference as the proprietor himself, into whose place they can step when they please, to make good their claims, which is reasonable—but an extent greater than the proprietor, in coming before all the other creditors of the tenant, not only for one year's rent, but for *all arrears of rent* due by him to the proprietor, and also for the current term's rent. In the latter of these instances, the law bestows an extent of preference upon a *derivative* right, greater than what belongs to the *original* it is derived from; and seems to have lost sight even of analogy, as well as of utility.

The agricultural credit of the cultivator is, however, less hurt in these instances, which may occur seldom, than from that perpetual obstruction to it, which is constituted in the refusal of the law, to support him *in the full, complete, alienable, and evictable property, which he ought to have in his lease*; which, in many cases that might be figured, may prevent him from freely fixing his own capital in the soil; and which may prevent others from lending theirs, from the well-grounded apprehension, that, if once there fixed, it may never again be withdrawn. The right of *delectus personæ*, which, very oddly, has been magnified into a consequence that does not belong to it, in the eye of law equally as of individual conception, obstructs the tenant's credit, by depriving him, in a great measure, of the power of assignment, or of sublets. In all tacks, where assignment and sublet are debarred by covenant in the lease, the proprietor can prevent either; although he should be able to produce no reason, but his own whim or fancy, and cannot instruct any diminution of security; or, even although he should have all reasonable additional security offered him, which would be held satisfactory in any other case. There is indeed an exception, in the case of tacks of very long endurance, where (as the law has never recognized, or speedily relinquished the absurdity of the right of tack being undescendible to legal heirs) the proprietor, from the distance of time, though held a very conjuror *in the discernment of spirits*, is considered as having re-
 quenced

nounced his *delectus* ; from the impossibility of his knowing the characters of the eventual successors, either through simple vision or the second sight : Our Supreme Court have, I am told, upon these principles, within these few years, sustained the validity of a sublet of a tack of 38 years. What length of tack shall be considered, thus, upon legal principles, as implying power of sublet, or where the point of time lies, within which the law shall say to that power, ‘ hitherto shalt thou come, and no farther,’ remains hid in the counsel of our Judges, to be determined in some future decision. In 1791, it was decided, that, in a tack of 19 years, it was implied, in law construction, without any formal stipulation in the lease to that effect, that the power of *delectus* was retained ; and that the tack was neither assignable nor sublettable.

In subletting, the original tacksmen is considered as bound to the proprietor, as well as the subtenant ; whilst, in assignment, the original tenant is free, substituting the other in his place. In conformity to the analogy of the feudal law, therefore, as well as to the greater security of the proprietor, the Scottish law is considered as more favourable to sublet, than to assignment ; because, in sublet, the first tenant does not relinquish his position as a *quasi* vassal, and the purposes of the metaphorical *delectus* may be, thus, considered as metaphorically, or analogically fulfilled, by this *fiction juris*, or *quasi* : moreover, too, the security of the proprietor, so far from being weakened, is greatly strengthened, in having his right of hypothec unimpaired, and the security of two instead of one. Upon this principle, it was considered, by our law oracle, Erskine, that a power of sublet was implied, in all cases where the contrary was not directly expressed ; till the aforementioned decision, in 1791, came to rectify our misconceptions.

Even Erskine allows, that, upon legal principles, an express stipulation in the tack against assignees, both *legal and voluntary*, would prevent the tack from being evicted by the tenant's creditors : Otherwise, a tack, unassignable by the tenant's voluntary deed, would, according to him, be evictable by adjudication, at the instance of the tenant's creditors : But, even in
that

that case, the creditors would be guilty of *lese-Majeste* towards the sacred right of the *delectus*, were they to bring the reversion of the lease to a fair sale to the best bidder: They are debarred, therefore, from such unhallowed and irreverent measures; they can only enter upon administration, as responsible factors of the tenant's concerns.

The great foundation of law, constituting, at least, the difference betwixt right and wrong, is public utility. When law reasoning confines itself to the attempt of symbolizing, in practice, usages long since obsolete, and whose reason has ceased—though, in respect of the exactness, or want of exactness, with which the assimilation is effected, it may be just or incongruous—yet, in its own nature, as it is neither true nor false, so neither can it be either right or wrong. There is, however, a necessity of fixed rules of procedure; without which, there can be no security or confidence in law. Decided views of utility are slowly evolved; and, meantime, the most obvious rule is the analogy of known usages.

Views of utility, however, excepting perhaps in the instance already quoted, seem progressively to have been gaining the ascendant over systematic law reasoning. And though the tack, in Scotland, is still somewhat encumbered by a remnant of the shackles of feudalism, in a considerable degree obstructive of agricultural credit and enterprize; yet, under the benign influence of the enactments of 1446 and 1466, with the liberal spirit of interpretation subsequently followed up by our judges, the Scottish tenant probably enjoys more security than what was ever bestowed upon the actual cultivators of the soil, either in ancient, or in modern times. Comparing ourselves with others, more cause of satisfaction will present itself, in having attained the relatively best, than of regret, in not having attained the best supposable.

Proprietors, in their covenants, might redress all deficiencies of the law, in expressly renouncing all retention of the *jus delectus*: Or, shall we suppose them grasping after the chances of forfeiture—or that, in their wisdom, they should conceive a spirited cultivation to proceed under such risk?

It might be mentioned, that the policy of entails, through the restriction often contained in them as to the endurance of leases, militates also, in a very great degree, against liberal outlay of capital in cultivation. A seeming relaxation of their restraint has been indeed obtained by act of Parliament, 10th of his present Majesty. Observations upon that act have been made (pages 110, 111, & 253 of the Report.)

In this Note, the lease or tack has been considered, chiefly in an historical point of view. Some additional consideration of its circumstances, in the view of public utility, will be resumed in a subsequent one. I have been much indebted for information to Ross's Lectures on Conveyancing.

NOTE C.

WHERE manufactures are established, an effectual demand, in offers of larger rent, will arise for small subdivisions of land, to be possessed by cow-feeders supplying the manufacturers with milk; or by those keeping post-horses for travelling, to transact business; or by carters, who find occupation in transporting fuel, and the materials and produce of manufacture. Even where agriculture has arrived at considerable improvement, such demand will arise, in a mere farming district, from the advantage ensuing upon subdivision of labour; the farmer finding it cheaper to hire all his carriages from the professional carter, than to perform them himself; as he is thus allowed to apply his whole capital, with entire undivided attention, to his own proper professional occupation, the cultivation of the soil*.

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* The same argument applies to the retailing of meal. Could the farmer find it advantageous to intercept the profit of the carter, by performing his own carriages, he needs no other inducement to make him do it. The very same reason would make him the retailer of his own grain. But the professional carter can carry cheaper, as the professional retailer can also retail cheaper than the farmer, with whose other business, such occupations would obstructingly interfere.

The possessors of such minute tenements, cannot properly be denominated farmers: they depend not upon farming, nor does it constitute their chief occupation. It marks a progress in improvement, when labour and employment are so much subdivided, as that their distinct branches can afford *chief* and *principal occupation* to their distinct several professionalists. But the completion of improvement implies their complete and perfect separation. And there is an universal, unremitting tendency to such completion; every one's interest necessarily leading him to confine himself to that occupation, in which, through practice, his undivided attention would render him more and more expert, so soon as he can find sufficient employment in that particular occupation, as to enable him to devote to it, exclusively, his whole time and attention; every other professionalist, meanwhile, engaged chiefly in some other branch, finding it for his interest to take his furnishings from the former, that he may also, in like manner, exclusively devote himself to his own particular employment. In great towns, where there is sufficiency of employment in one particular line of profession, we find, accordingly, that land is very seldom occupied by carters, cowfeeders, &c.; they disincumber themselves of that interruption to their business which would arise from the cultivation of the soil, finding it much cheaper to purchase the farm produce they need from the professional cultivator. For the same reason, merchants dealing in the retail of corn, potatoes, hay, or other farm produce, do not take land in lease; finding that the professional cultivator can furnish it to them cheaper than they could raise it. Nor is the practice of such professionalists, of not possessing land, the effect of any regulation, or even public prejudice. On the contrary, as to the latter sort of professionalists, it is the universal, ineradicable prejudice of all great towns, that every retailer of farm produce should himself be the producer of the article. Neither will any landlord refuse the highest rent offered him; so that there is nothing to prevent merchants from outbidding professional farmers, if it were more for their interest to produce, as well as to sell.

So long, however, as the circumstances of a society are such, as not to admit of perfect subdivision of employment, there will exist a class of such minute occupiers of land; not for the immediate profit derived from land, but on account of its subserviency to other more profitable employment. It is needless to say that such minute occupation ought to be encouraged; for, so long as the circumstances of society require it, it will force its own way, from its being able to afford more rent. But it would be equally absurd, either unnaturally to force it into, or out of, existence, by instituted regulation; it ought to be left to be settled by the actual demand.

Instituted regulations counteracting natural tendencies, will ever be themselves counteracted: And, therefore, there is very little danger to be apprehended of the introduction of a sort of general cottage-system of the occupation of the lands—a sort of Agrarian law, of late so much cried up. So long as such pastorico-poetical politicians content themselves with attempting to enlighten the landed proprietors, in convincing them that such minute occupation would tend to their interest, no harm can ensue. The proprietors of land, after listening to their declamation, will judge of the expediency, by the offers of rent which are made them; and their consciences will be kept easy as to the propriety of such procedure, from the consideration, that the highest rent can be afforded only from the highest production raised at the least expence.

Of all forced artificial regulations, the most absurd (condemning the earth to sterility, and its inhabitants to poverty) would be an Agrarian law, dooming the lands to subdivision, into equal possession, among the inhabitants of every country; whether to be held in property or in lease. In a common pasturage, (the only conceivable mode of holding pasture lands in equal possession), is it possible to imagine that any thing could be effected, in the improvement of breeds, in the prevention of intermixture, in proper stocking of the land, in hiring or herding? Among such puny proprietors, or farmers, having each an equal interest in the half or quarter of a common horse, might not the animal be oftener idle than occupied, for
want

want of agreement as to the time when, and the purpose for which, he was to be yoked; or starved, before his masters should agree when, or whereupon, he was to be fed? Every individual being thus, in a manner, *adscriptus glebe*, and doomed, per force, to be a farmer; and no one being at liberty to devote himself to any other profession; of course, each individual must, of necessity, become Jack-of-all-trades, and provide himself in every kind of furnishing he required; and the strange uncouth system of universal awkwardness and bungling that must ensue, may more readily be conceived than described. Nothing but the continued interposition of the most violent regulating force, counteracting the strongest natural tendencies, could ever preserve such an unnatural constitution of things, for any time, in existence: As every such small possessor must constantly be endeavouring to dispose of his minute possession, which cannot sufficiently occupy him, which he cannot occupy to any purpose, and which prevents him from betaking himself to more profitable employment, to those who could readily afford him more for it, than he can possibly make of it himself. It would, indeed, be extremely singular, if that subdivision of labour and employment, which is the characteristic of civilization and improvement in every other instance, should form an exception to the generale rule, in the sole instance of the cultivation of the soil. The Agrarian system is, in some sort, exemplified in the common-property lands belonging to burgh corporations; the occupation of which, by distracting their attention from their proper professions, has generally the effect of beggaring the members of the corporation. It is happy for them, when they have the good sense, and fortunately also can agree, to let their corporation lands, in undivided possession, to a practical professional farmer. The inhabitants of the town of Peebles, in this county, possess lands in common property, chiefly consisting of hill pasture, but containing also arable land: Particular domiciles, in the town, have different proportions of interest in this common property attached to them as appendages, the whole integer of the property being ideally considered as consisting of a certain number of *scums*, and the particular

particular interest of each domicile being designated by a specified number of these founs. Before these lands were, happily, by universal consent, let to a single farmer, the value of one foun was considered as equivalent to 5s. yearly; without taking into the account the loss sustained by the proprietors of the domiciles, in distraction of their attention from their proper employments in the common management of this common concern. Now, that the lands were let to a professional farmer, the yearly rent divided among the proprietors, amounted, at once, to about 13s. for each foun; and the lands have, even subsequently, been sublet, by the original farmer, at a considerable over-rent*.



NOTE D.

THE topics of inquiry, suggested in Chap. IV. of the prescribed form of the Agricultural Reports, are curious and important: viz. the *proper size of farms*;—the *generic character of farmers*;—the *proper construction of the farmer's lease*. Each of them merits particular discussion. I shall state what has occurred to my reflection; 1st, In regard to the character of the farmer; 2^d, In regard to the construction of leases; 3^d, In regard to the proper size of farms.

Character

* When a contiguous proprietor withheld, of late, to purchase this common-property land from the domiciled proprietors of the founs, some of the burgh politicians protested against this disjunction of the founs from the domiciles, *lest the burgh should be deserted of its inhabitants*; an opinion sanctioned by declaratory acts of the Town Council, recorded in the Town's books, declaring any one infamous who should propose such a measure. A curious mode, this, of enforcing population, to preserve respectability to the burgh; though, perhaps, upon a par with other entails of land, intended to preserve consequence to names—whether family names, merely, or as designative of rank.

Character of the Farmer.

The origin of professional farmers, as constituting a distinct class in society, is not to be attributed to any artificial regulation of political contrivance; it is an arrangement that must necessarily take place, in the natural course of things; and that hath therefore existed, in every age and nation, so soon as men have emerged from the Jack-of-all-trades state of savagism, and attained to any degree of civilization. In proportion as civilization advances, through the effect, and as the additional cause of the proper subdivision of employment, the profession of the farmer has become more and more exclusive, appropriate, and distinct.

In the progress of civilization, under the protection of laws, or customs equivalent to law, securing property in its acquisition, enjoyment, and transmission, two distinct descriptions of persons will arise, into which every society may be divided; those *whose fortunes are already made*, and those *who have their fortunes to make*: The first trained to habits of enjoyment, rather than to those of acquisition; the second to habits of acquisition, more than to those of enjoyment: The first comprehending the landed and the monied interest; the second comprehending those who have not equal property in land, or in money, and who are willing to give rent, or interest, for the use of the one or the other, which they pay out of the profits resulting to them from their skilful and industrious use of either: These, again, employ under them, all manner of day-labourers, and artificers. The two classes are destined to be mutually subservient to each other: They are, indeed, mutually indispensable to each other's existence*. In those born to opulence and independence, and trained up to the proper enjoyment of a fortune, the same adventurous spirit of enterprize, or patient industry, or minute
attention

* Nothing could be more absurd, than the Jacobinical attempts of representing the first of these classes as a nuisance in society. See *subsequent note*, G.

attention to œconomy, in the acquisition of gain, are not to be expected, as in those who have their fortunes to make: And it is happily so ordered, to preserve some sort of equality in the conditions of men, and to give their chance of rising in the world to those in more poor circumstances; otherwise, those in obscure situations, could never possibly emerge from their obscurity, if they had to compete against equal industry, joined to the advantage, of which they are destitute, the possession of wealth: But, in the ordinary routine of human affairs, poverty begets industry; industry, riches; and riches, when long enjoyed, and the habits by which they were obtained forgotten, leads to that prodigal profusion, which terminates in poverty;—when the rotation recommences. Meantime, men of skill and enterprize, but destitute of capital, are accommodated with the use of land, or of money, by those possessed of fortunes in either; whilst the latter are equally accommodated by the former, who enable them to live at ease, by sharing with them the profits, in name of interest, or of rent, which they were enabled to make by their industry, through the loan or hire of money, or of land. It is not from mutual attachment, but from mutual need of each other, that these two classes are subservient to each other's interest: It is not from any view to the other's accommodation, that the monied, or landed proprietors, grant the use of their money, or land, to the man of skill and enterprize; but because, with their habits, they receive more from him, in sharing his profits, in the name of interest or of rent, than what they could obtain, by directing, themselves, the outlay of their monied capital, or overseeing the cultivation of their own soil: It is not from any desire of obliging the monied, or the landed capitalists, that the man of enterprize consents to share with them in the fruits of his industry, in superintending the proper profitable use of their money, or their land; but because, without the use of land, or of money, his skill and industry could be turned to no account. The same observation is equally applicable to the mutual accommodation of those who employ labourers, and those who give their manual labour for hire: The former give employment to the latter,

ter, because, without their labour, neither stock nor land could be turned to any profitable account; and the latter, labour for hire, to the former, because they need their maintenance to be daily, or at short periods, advanced to them in wages; being unable, for want of stock, to await the ultimate return of the product of their labour. The benevolent intention of mutual accommodation, is, in the general, director of nature; not in those who are thus mutually subservient to the accommodation of each other—though the practice of mutual accommodation has, by the ordination of nature's Author, a strong tendency to beget sentiments of mutual good-will*.

In an industrious state of society, though the whole members are thus mutually subservient; it is not, through the subserviency of gratuitous donation on the one hand, and servile obligation upon the other; but through the subserviency of the interchange of equivalent values; by which, in the midst of mutual dependence, in one sense, they are mutually independent, in another.

To return, however, from this digression, which, I presume, will not be considered as very foreign to the subject; the character of the independent country gentleman, the proprietor of land, stands clearly distinguishable, upon the principles laid down, from that of the farmer who rents land for hire.

Independence is, no doubt, a relative idea. The country gentleman, however, who, either wisely (in consideration of the general standard of wealthiness), or foolishly, considers himself as independent, is not at all likely to acquire that character, and those habits, that shall fit him to become a very successful cultivator of the soil. From his situation, he is laid under a responsibility; and from the education, and habits suited to his situation, he is supposed to possess that liberality of mind, and extension of views—that public spirit, and disengagement from the contracted pursuit of private emolument, which point him

out

* The good-will produced by interchange of mutual accommodation, was expressed, in Latin, by one word, *necessitudo*.

out as proper to be entrusted with, and as having most leisure to manage, measures of public concern : Hence a variety of duties are imposed upon him, which must necessarily occupy a considerable share of his attention, if he would wish to preserve his proper respectability. He lives upon an income, the extent of which is publicly known ; and, from the publicity of his income, a certain suitable expence in his style of living, is exacted of him, by custom and fashion. From the numberless avocations to which he is thus necessarily exposed, in the discharge of his public duties, and in his social intercourse, he cannot be supposed to bestow that habitual and minute attention, so indispensable to successful husbandry : That penurious attention to all the *minutiae* of œconomy, which so well suit the professional farmer, would, in his situation, be even degrading. Neither can he remedy those deficiencies, arising from his situation and consonant habits, by the substitution of an overseer : For, admitting the latter to be as active, skilful, and honest, as can well be supposed, it is not in nature to expect from him, *as acting for another's interest, and at another's risk*, the same strenuous exertion, with the same attention to œconomy in expence, as what may be reasonably expected from the professional farmer, *acting for his own interest, and at his own risk* ; when, from proper duration, and other security of his tenure of possession, he is certain of reaping the whole profit of the utmost exertion of his skill, industry, and œconomy, in the proper outlay of his stock *. But, further, the funds for improvement, in the hands of the independent country gentleman, must, in general, be extremely limited. From the rate of living, imposed upon him by fashion, in his ostensible situation ; from the ambition of distinction, which even the most prudent can hardly refrain within the bounds proportioned to their means ; from all the habits assumed in an independent situation, in which he hath been taught to consider it as his business to *enjoy*, rather than to *acquire* ; from all these circumstances,

* Professional farmers sometimes complain of the vicinity of gentlemen improvers, the idleness of the latter's servants being found contagious.

stances, his savings, from his annual revenue, can be but inconsiderable. Inconsiderable as are these savings, they, however, constitute the only fund which he is inclined to risk upon agricultural improvement. He scruples to borrow money for this purpose; because it is seldom found that his improvements make a suitable return; for, though he often does excel in theoretical knowledge, his practical skill must ever come far short of that of the professional farmer: He is universally, too, considered as an easy and a lawful prey to all those in his employ; nor is he possessed of that strict, unremitting attention, which is necessary to his self-defence: His schemes are therefore executed, at an over-proportioned expence; and, for want of practical skill in direction, and, still more, of œconomy in execution, his return of profit is seldom adequate to his expence of outlay*. The habits of his station lead him also to attach himself to *ornamental*, as much as to *useful* and *profitable* improvements; the former being, in the universal mode of thinking, that *use* of money which suits those born to independence; and whose minds, in the course of an education suited to their circumstances, may be supposed to have imbibed a relish for the liberal arts. Even to borrow money for the purposes—of ornamental architecture—of dressing up a lawn—of placing here a piece of water, and there an artificial ruin for a vista: Even to borrow for such purposes, is not judged preposterous; though no return of profit is, in any shape, expected.

If, even when the mind is stored with all the acquisitions, and the energy, that can render a state of independent fortune most highly respectable, little success is to be expected from the proprietor's cultivation of his own soil: What can possibly be expected, when independent fortune pleads privilege of worthless insignificance; and the power of enjoyment displays itself in mere debasing and stupifying sensuality?

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* It is proverbial in this county, and probably every where besides, 'That a professional farmer might afford, *as rent*, the whole *farmer's profit*, reaped by the proprietor farming his own lands, although he has no rent to pay.'

The farming most suited to the station, and congenial to the proper habits of the respectable independent country gentleman, would seem to be *great outline improvements*—beneficial, not to single farms alone, but to a whole estate; and in which, farmers, having interest merely in single farms, will not, of course, so immediately interest themselves: leaving the details to be filled up by the particular professional farmers, who have an immediate interest in their execution. The only detail farming, suited to the independent country gentleman, is *experimental farming*, for the purposes of invention, or of verification; conducted, too, upon a scale that could involve no important consequences: That minute attention and œconomy, which would degrade him, if applied (like those of the professional farmer) for the mere purposes of gain, would do him credit in conducting experiments, producing results of general utility. It is not, indeed, to be expected, that the inventions of the gentleman farmer should be *immediately* adopted; nor is it fit they should: What is perfectly ascertained as useful, will, nevertheless, sooner or later, force its way into practice.

The character of the professional farmer is, from the opposite nature of his circumstances and situation, formed in generic distinction, to that of the independent landed proprietor.

Having to *acquire*, not to *enjoy*, a fortune, his faculties are sharpened by necessity; his whole energy is called forth, as he must either do or die; his attention is ever alive to the most minute details, that can contribute, in any way, to his purpose. In this manner, like all other professionalists, he acquires more perfect practical skill in the business of his profession; his plans are laid down with judgement, conducted with accuracy, and with the most minute attention to œconomy in expence. Subjected to almost no public duties, his attention is not distracted from the peculiar business of his profession; he can personally oversee every operation, and attend to the whole detail of practical œconomy. Like as with all those who live upon profit, his income is unknown; and no particular rate of living is exacted of him, by custom and fashion: If his rent, then, is sufficiently moderate, and his encouragement to indus-

try

try otherwise proper, his annual savings may amount to much more in proportion to the produce of his farm, than those of the independent country gentleman in proportion to the rents of his estate. And as his habits are formed, not to enjoyment, but to acquisition, these savings are neither devoted to ornament, nor other expence of living, but are added to his farming capital; which he would certainly rather employ himself, in the way of his profession, to the superior or more extended cultivation of the soil, that he might reap *farmer's profit*, than lend it to other professionalists, who could afford him only *common interest*. From the dust these savings arose, and to the dust they have a natural tendency to return. Unlike to the independent proprietor, he can even, with safety, borrow money for the purposes of agricultural improvement; as, under his economical application, capital may reach to double extent of efficacy*.

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* A prejudice seems generally prevalent against the expediency of a tenant farming upon a borrowed capital. In the reason of the thing, were this subject placed upon a proper footing, there seems no sufficient cause, why the borrowing of money should be more inconsistent with this profession, than with that of other gainful professions, requiring the outlay of capital.

Indeed, the ridiculous absurdity of the retention of the *delectus personæ*, a right so highly favoured by the feudal construction of Scottish law, together with equally absurd articles voluntarily covenanted—all tending to prevent the tenant's interest in the soil, by his lease, from being an article *in commercio*; must necessarily preclude the tenant from obtaining money to borrow, by disabling him to offer any proper security to his creditors; must even, in many cases, discourage him from the free outlay of his own capital; and must operate to the discouragement of his credit and exertions, as entails do to those of the landed proprietor. There is a general complaint of deficiency of capital invested in agriculture: This deficiency seems not, however, to originate in any thing peculiar to agriculture, making it an object of particular antipathy to credit; but to such absurd obstructions to agricultural credit, as arise from artificial regulation; which tend to banish capital from agriculture, into other kinds of investiture, under which it remains more securely in the power of its proprietor; restricting the extent of investment of capital in agriculture to that of those who have been trained to agriculture as their peculiar profession, and who follow it out from habit as much as in view of interest.

Farmers are, at all events, disadvantageously situated as to borrowing money. Monied men generally prefer, for their seat of residence, the society of great towns, the

The general improvement of the productive value of the lands, must, for these reasons, depend much more upon the exertions of professional farmers, than upon those of independent landed proprietors.

But these exertions will necessarily depend upon the encouragement given to exertion, from the security of reaping its fruits. And as, in Scotland, no *indirect* security is possessed by the tenant, in the way of his political influence; his security must *directly* arise from the legal or conventional conditions of his tenure of possession*. This leads to the consideration of

Leases.

This tenure of the farmer's possession may be considered under three points of view, *viz.* Its duration: The extent of the right of property in it, during its continuance: And the extent of the use of the soil, communicated by it.

1st, Duration of the Lease.—The shortest possible period of duration, to which the cultivator of the soil can be circumscribed, even though he is retained as a mere tenant at will, must allow him at least the security of one year's possession; else he could have no sufficient inducement, to lead him to make preparation, even for a single crop, by merely tilling and sowing the land †.

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the natural residence of merchants and manufacturers: They, of course, get acquainted with persons of these classes, and place confidence in them: They can have less intercourse with farmers, who necessarily live dispersed. Why then, artificially, increase this natural disadvantage as to credit?

The farmer upon Neidpath estate, who, in the least time, has executed the greatest quantity of permanent improvement upon his farm, began his farming career about 30 years ago, without a capital of his own; or, at least, with one no way adequate to the extent of his undertaking. His leases, indeed, have ever been of that long duration, which, even in the eye of law, implies the devolution of the proprietor's inherent right of *alienus persona*: His credit therefore was good; he could pledge his lease in security; and his creditors could sell, to the highest bidder, the reversion of his right in the soil, enriched by the fixture of their capital.

* See subsequent note E.

† By Demprierc we are informed, that, in Morocco, the lands all belong to the Sovereign; that the wandering Arabs (when they find it convenient, in respect

The most important agricultural improvements are of slow return; the capital, meanwhile advanced in effecting them, must be fairly fixed in the soil; whence it cannot be withdrawn at once, but gradually, in the profits of each succeeding year; and not entirely, till the expiration of that period which had been held in contemplation when they were made. If we attend to the complicated farming operations, necessary to bring the lands to their highest state of production, but which yield no immediate advantage adequate to the expence of their execution—such as, breaking up of waste lands, with fallowing and liming—reducing the farm into a connected system of subserviency, by regular rotation of pasture and tillage—improvement of breeds of cattle, &c. particularly if we take into the account, the expensive operations of draining, enclosure, and accommodation of houses—then some idea may be formed of the extent of lease necessary to give the tenant a sufficient interest in the execution of such permanent improvements.

Let the tenant possess at a rent not over racked; and let his lease be of such extent of duration, that the advance of his capital, and of his savings, and of what capital he has credit to borrow, in executing improvements of the most permanent duration, shall afford a prospect of better return, than under any other mode of their application; and such improvements will immediately be secured, much more effectually, than by any system of compulsory regulations*. Under his frugal management,

of pasturing their cattle, to pitch their tents in any particular district, for such length of time, as to allow them to wait for the return of a crop) plough and sow what quantity they please; the officers of the Crown go through the country, after harvest, and collect the tenth of the produce, in name of the Emperor's rent. It were to be wished, that our travellers, instead of confining their observations to the manners of cities, and the revolutions of political power, would attend to the moral excitements held out to agricultural industry, in the various tenures of possession bestowed upon the actual cultivators of the soil:—the subject is, at least, equally interesting.

* Witnesses the improvements on the Neidpath estate (p. 104, *et sequentia*, of the Report).

management, too, annual savings would soon accumulate into a new capital; which, in his judicious and economical mode of application, will go much farther in improving the productive value of the lands, than a much larger capital under the more lavish expenditure of the independent proprietor; where also the application so often tends to deviate from use to ornament.

The advantage of improving quickly, with a large capital, and the whole farm at once, rather than slowly, gradually, and partially, as stock shall accumulate by degrees in the hands of the improver, is exceedingly obvious. But, where are such capitals to be found, as would at once reach to the extent of the improvement of a whole unimproved district? Capital can alone be created from savings: according to the Scots proverb, *the ground must build the dike*. Proprietors might, no doubt, pledge their lands, in security of such capital as they might borrow; but capital is not to be had, to serve all the purposes for which it might be wanted. Upon proper encouragement of farming industry, it would gradually accumulate in the hands of the tenantry, to serve every agricultural purpose.

The interest of the tenant, the proprietor, and the public, if well understood, are ultimately the same: viz. *that the tenant, under every proper encouragement, should be excited to the improvement of the productive value of the lands*. But, in regard to the *duration of the lease*, the interest of the tenant and the proprietor are, *in appearance*, immediately at variance.

It is, without doubt, the *immediate interest* of the proprietor, to let his lands at the highest possible rent—to have them brought, during the lease, to their highest possible cultivation, by the exertions of the tenant's industry, and the outlay of his capital—and to seize upon these advantages as speedily as may be,

In an age of awakened industry, enlightened, too, by more interchange of communication, nothing seems wanting, but proper moral excitement. The torpor that prevailed in Scotland till within these 50 years, may be, in part, ascribed to the general ignorance; but partly also, no doubt, to the debased state of the tenantry, in respect of their tenures.

be, by granting the shortest lease that a tenant can be found to accept of; and even that exposed to various chances of forfeiture. Such short-sighted avarice must, however, overreach itself, and necessarily defeat its own end; as advantages, that can only be reaped through the voluntary co-operation of others, cannot, in reason, be expected, where the advantage is not mutual. If the rent is too much racked, or the duration of the lease too short to encourage industry or outlay, no such advantages can arise; and the tenant's folly or obstinacy may be very absurdly blamed, when he merely refrains from doing what he has no interest to do; where, with more justice, the blame might be imputed to the narrow-minded and illiberal policy of the proprietor. The proprietor has it more in his power to let his lands in what manner he will; the tenant is more under necessity of receiving them upon such conditions as can be obtained.

To think of supplying the tenant's want of interest, by compulsion in his lease, is as idle, as to think of extorting, by the whip, from slaves, the same strenuous exertions as may be excited in free men, when paid in proportion to the work they perform. All compulsory regulations enforcing improvements, in which the tenant enjoys not his equal share of advantage, will necessarily by him be evaded, or restricted within the most confined sense of the letter—a disinterested regard to the public good, being as little to be expected in this class, or less so, than in that of their superiors. But, supposing that superior cultivation could thus be enforced by regulation, without imparting to the tenant a proper share of the advantage, and that the immediate advantage rested all with the proprietor; the advantage accruing to the latter would, ultimately, prove to have been more apparent than real: For, if the tenant had been admitted to his proper share of the immediate profit, it would not have been dissipated; but would have accumulated, in his oeconomic hands, into an addition of capital; enabling him, in proportion to his increase of stock, to afford more rent for land, upon which it might be profitably occupied.

It is not easy to determine what is the proper duration of a lease. It may, with propriety, be shorter upon a farm already

dy improved, where immediate profit is reaped by the tenant, without much expence of outlay. It seems probable, that, with few exceptions, the error through Scotland has lain, hitherto, in too short duration. There is certainly, however, a just medium of endurance, if it could be hit upon, necessary to preserve the tenant in his proper useful character. Upon a lease of excessive length, though the original lessee might retain the professional habits in which he had been trained, even after he had accumulated considerable wealth; yet his successors might be tempted, however awkwardly at first, to assume the manners of those born to independence; to commence gentlemen; and, of course, to degenerate in their farming capacity. When such revolution of character does take place, public utility, as well as the interest of all concerned, requires, that the farm were in better hands. It would pass into better hands, if there is no clause debarring assignation or sublet; as a farmer of the true breed, possessing the true professional character, could afford to give him more rent for his farm, than, with his new assumed character, he could make of it by farming it himself. The grudge at seeing a profit thus made of his lands, in which he does not share, is, with some proprietors, a reason for preventing the power of sublet; but the lands could never have become worth so much, had they not been so held by the tenant, that a profit could be made from them, in which the proprietor could not share.

After all, though long leases can alone, without doubt, lead to improvements of permanent duration; and to the greater quantity of such improvements, in proportion as capital, under the administration of the tenant, will go much farther than in any other hands: yet, nevertheless, towards the close of every lease, there must be an unimproving interval, during which, all attempts at melioration on the part of the tenant must cease; and where the compulsion of regulation, under penalty, must be substituted to the spur of self-interest in the tenant, to enforce melioration, or to prevent deterioration.

tion.—A weak and inefficient *succedaneum*, whose effect will ever be attempted to be declined and evaded.

To remedy this defect, Lord Kaimes (probably the first who has considered farming in the view of its proper moral excitements) has suggested the *indefinite*, or *perpetual lease*. He proposes, that the tenant should possess the farm at a rent certain, and for a term of years certain (suppose 20 years); after the expiry of this first term of years, that the tenant should continue to possess for a second term of 20 years, the rent for this second period to be advanced in a specified proportion (for example, to one third part more than for the first 20); and so to continue, from 20 years to 20 years, upon proportional rises of rent, *ad infinitum*—with succession, undoubtedly, to heirs, and liberty of alienation; without which, even this lease could prove no proper inducement to industry. As, however, at the end of any of these 20 years periods, it may so happen, that the tenant shall judge the specified rise of rent too much for him to pay; or the landlord shall judge it too little for him to accept of: It is therefore farther proposed, that it shall be optional to either party to vacate the lease at that period, upon giving twelve months notice to the other; when the farm shall be laid open to the competition of bidders; with this provision, in favour of the present tenant, “that he shall be at full liberty to bid for the farm; and that either his offer shall be accepted, or otherwise he shall receive from the proprietor so many years (suppose 15 years) purchase of the advance of rent offered by him;” it being left optional to the proprietor to do either, lest the tenant should offer advance merely with a view to the purchase-money.

In this manner, the proprietor would be certain, at moderate intervals, of receiving a rent adequate to the improved value of his subject (at least, if proper provision in the rises could be made to correspond, not merely to the money price of the improvement at the time of fixing the provision, but making allowance for the eventual variation in the value of money *); whilst the tenant, meanwhile, would be encouraged

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* Perhaps, this could not be done, but by making the rent in grain. (See p. 86. of the Report.)

ed to go on improving to the very end of his lease, under the certainty of either receiving back the farm at such a rent as he could readily afford, or of obtaining an adequate compensation, if another were preferred to the lease.

Besides the difficulty of fixing the rises of rent at the end of each of the 20 year periods, so as to keep (in a money rent) due proportion to the eventual value of money, other difficulties present themselves, as to this effort of Lord Kaimes at the idea of a perfect system of continual moral excitement to the tenant's industry.

1mo, As, under this system, the farm is locked up, *ad infinitum*, against alteration; it must have been so perfectly constructed, as to its size, for the most profitable occupation, as to need no alteration in this respect; otherwise, this advantage can never afterwards be obtained. But how is this to be perfectly foreseen?

2do, All improvements of the estate at large, to which it might very probably be necessary to sacrifice the particular interest of this single farm, are precluded, from the unalterable nature of its constitution.

3tio, All chance of its undergoing the *ornamental improvements*, at the least, which suit an absolute and perpetual proprietor, are excluded; as it can never fall out of lease.

The extent of the right of property in his lease, which is communicated to the tenant, falls next to be considered.

The universal prejudice in regard to the propriety of cramping, shackling, and circumscribing the extent of the tenant's right of property in his lease, through the proprietor's retention of the right of *delectus persona* in the tenant, by which the latter is deprived of the power of alienation of his right of lease, has been already adverted to in Note B. It hath originated in that particular cast of thinking, which has been impressed upon us, through familiarization with the usages of the feudal law; which would lead us to force into an unnatural analogy with these usages, a subject, which bears no sort of reference to feudalism, and which ought to be regulated upon principles diametrically opposite.

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Had there been any propriety in enforcing, in regard to *cultivating tenantry*, the same perfect dependence upon the proprietor, as, in times of turbulence, was necessarily enforced in *military tenantry*, upon their military chief; then, the cultivating tenant ought never to have obtained the smallest degree of emancipation—he ought to have been retained as a mere tenant at will: The cultivating tenant of one property-chieftain ought never to have been forced upon the acceptance of another property-chieftain; and the act 1446 was an iniquitous encroachment upon the inherent, inalienable rights of *delectus personæ* of heirs and of singular successors: The cultivating usufructuary tenant ought, like the military tenant, to have been ever considered as identified with his master; and ought to have continued answerable for his debts, as the other for his depredations: And the act 1466, relieving him from such responsibility, must also be considered as a violent and iniquitous interference, dissolving a connexion which usage had impressed with the character of nature.

The principles applicable to a military tenant, are as opposite to those applicable to a cultivating tenant, as the principles which regulate fighting, are to those which regulate industry. Absolute despotic rule is alone suited to the soldier; but industry is extinguished by its touch. When the cultivator of the soil was fitted to become a farmer, properly so called, (cultivating the soil, at his own risk, by the outlay of his own stock, and paying rent to the proprietor for the use of his soil), it was found indispensably necessary to depart from military maxims, under which the tenant's industry could not possibly thrive; and accordingly, the security of the acts 1446 and 1466 were extended to him.

Still, however, the security of the cultivating tenant is, through the ridiculous adherence to the *jus delectus*, very far from being so full, as what is found necessary to encourage industry in other professions, requiring, like his, the industrious outlay of a capital.

Suppose a tenant holding a lease, which is not of that long duration, which, *ipso facto*, implies the relinquishment of the *jus delectus*; and supposing he has no children; and supposing that

that his heirs are persons whom he does not love, or whom he hates : If he shall fix his capital in improvements of the soil, he cannot devise it to whom he will, as he has no power of alienating his lease to whom he pleases ; but the right of lease to the farm, together with the capital he had fixed in it, is thus carried, by a sort of entail, to heirs for whom he has no regard. Is it supposable, under such circumstances, that the tenant will ever so fix his capital ? Will he not rather retain it under his immediate possession, and subject to his own devise-ment ? He will be equally barren of improvement, as an heir of an entailed estate, similarly situated in point of connexion ; having, like him, but a mere life-tenant interest in the subject. (See page 35, and foot note, page 105.)

Or, supposing a tenant upon a lease, subject to the embargo of the *jus delectus*, has no family but a daughter : What rational inducement can he have to sink money upon the improvement of his farm ; when, after his death, his daughter must either remain single ; or, if she marries, must incur a forfeiture of the lease, through the absurd system adopted in Scotch law, of forcing the incongruous subjects of tenures for the purposes of fighting and of industry, into analogy ? (See page 297.)

Or, supposing a tenant to have a family of sons ; as we are not yet arrived at the high civilization of being allotted by law or custom into *castes* (see foot-note, page 254), it is very probable none of the sons may choose to follow their father's profession ; but may have all settled themselves in more lucrative employments, which they could not relinquish, without great loss, in order to take up the occupancy of the father's lease, by succession after his death. Would any father, possessed of common sense, or common affection, in such circumstances, launch out more upon his farm, than what he had a prospect of reaping full advantage from during his own life—when he knows, that, upon the event of his death, his sons are debarred, by the *jus delectus*, from reaping the profits of a liberal outlay, by disposing of the reversion of the lease to the best bidder ; and that they must either dispose of it, by relinquishing it to the proprietor for nothing, or for any thing
he

he pleases to allow; or otherwise continue themselves the possession, under the unprofitable management of an overseer, acting at their risk, and without any interest of his own at stake*?

In all these instances, whatever may be the security of duration, *nominally specified* in the terms of the tack, the *real interest* of the tenant amounts, in effect, to no more, through the operation of the *jus deleētus*, than a mere life-rent interest.

Through the operation of the *jus deleētus*, the tenant is, in a manner, an *adscriptus glebæ*; he cannot rid himself of his lease to the best bidder, so as to recover the capital he had fixed in the soil, when a more lucrative profession opens to him; or when he might have the opportunity of transferring his superior skill, and industry, and capital, with the greatest advantage to himself, and also to the public at large, to some other farm, in some less improved district; where superior profits might be made, from the incapacity of inferior improvers to compete with him in offers of rent, and where his example might be of general benefit.

In other professions, it would certainly be considered as a most preposterous mode of improvement, to force capitals to remain where they were once fixed, or industry to continue to be employed about the identical subject to which it was first applied. What could we judge of regulations of trade, which should bind the trader to the continued occupation of the same herring-bufs, or West Indiaman; or the merchant to the same shop; or the manufacturer to the personal occupation of his cotton-mill?

Industry retains universally the same character: its proper excitement, to whatever subject applied, is security and freedom.

* A case of this kind occurred lately in the farm of Blythbank, in Linton parish. A spirited farmer, who had laid out great expence in melioration, died at an early period of his lease. His heirs, otherwise engaged, could not take up the occupancy; and the proprietor, had he used the powers of his *jus deleētus*, might have had the lease given up for an old song: He generously allowed them to dispose of it to the best bidder. Where, however, is the encouragement to improvement, when the risk of forfeiture is only avoided through forbearance of the landlord?

dom. If there is a reluctance against the investiture of capital in agriculture; if capital more freely directs itself to investiture in manufactures or trade, the reason I should conceive to be extremely obvious. Capital will ever more readily be directed to those employments where it enjoys most freedom and security, where it remains most at the free disposal of its proprietor, and where it incurs least risk of forfeiture.

In the acts 1446 & 1466, the Scottish Parliament broke through the analogy of feudalism, in favour of the security of capital invested in agriculture: Nor would it appear a very great stretch of power, in the Imperial Parliament, to break through the analogy of the military *delectus*, by declaring an unassignable, inalienable lease (excepting, perhaps, in a very few specified cases) to be a *peccatum illicitum*—that every encouragement might be held out to the investing of capital in agriculture, by rendering it equally unfettered, as to use and transference, when so invested, and equally secure against risk of forfeiture, as when invested in any other industrious occupation.

For obvious reasons, Parliament will ever be reluctant against interfering with the free use, or even abuse, to a certain extent, of property. And every restraint of this kind upon agricultural industry might be removed, by the terms of bargain, by landed proprietors; who might expressly renounce the *jus delectus*, considered as inherent in them, in the eye of law;—unless, indeed, possessing heirs of entail might be considered, in so doing, as acting *ultra vires*, in thus trenching upon the inherent prerogative of the heirs of provision of the entail.

In many cases, the *jus delectus* must operate, in the strongest manner, in restraining the tenant from ever fixing his own capital in the soil: in all cases, it must militate against agricultural credit. Where the lease is evictable at law by creditors, this entitles them, not to dispose of it by sale to the highest bidder, but merely to administrate for the tenant. Farmers might do so, though with considerable inconvenience: monied men, not professional farmers, might ruin themselves by such administration. But where the proprietor debars all assignation, whether legal or voluntary (a folly, of which, it seems, they are supposed capable, as the law makes provision for the case);

case); even this recourse, for the money lent to the farmer, is denied. Under the restraints of the *delectus*, a monied man would just be as scrupulous of lending money to a farmer, upon security of his lease, as to a possessing heir of entail upon security of his estate. (See foot-note, page 315.)—The latter will, in general, more easily obtain credit, from his real or supposed political influence; through the delusive influence of which upon expectation, the lender may swindle himself out of his money, relying upon a security of repayment, which has no existence but in his own imagination.

The reasons why leases should ever be completely alienable, like every other species of property upon which capital is launched out, are abundantly obvious. The reasons why the alienation of leases should be clogged by the proprietor's *jus delectus*, have never appeared to me to be of any weight: Some such reasons as the following, I have heard suggested.

The *delectus* has sometimes been defended, upon the supposition that it gave a tie upon the tenant's political principles, in preventing the substitution to one with whose principles the proprietor was originally satisfied; of another, whose principles he might have cause to dislike. Were it a matter of such importance, that landed proprietors should have the regulation of the tenant's principles; and were it proper and expedient, for this purpose, that security should be withdrawn from agricultural industry; the best regulation would be, that the whole cultivators of the soil should be kept as tenants at will. This, however, would be to attempt to preserve a country, after reducing it to a state not worth preserving; like to the policy of extirpating the inhabitants, to prevent their rising in rebellion. To communicate a stake worth defending, I should apprehend to be a preferable mode of securing attachment to any existing order of things. In regard to the late danger of the insurrection of the poor against the rich, for the division of their funds, upon Rousseau and Godwin's systems of savage liberty and equality, I think it will not be denied, that the essential interest at stake, in the farming class, had the most powerful effect in preserving the country from revolutionary madness. Much was certainly effected by the spirited and heartily affected services of the Yeomanry:

Yeomanry : Nor would the zeal have been less, in proportion to the largeness of the capital invested in agricultural industry. And though, perhaps from mistaken principle, or perhaps from miscalculation of consequences, and the desire of being of the side of what was apprehended would become uppermost, there might be exceptions among the Yeomanry ; yet, from similar causes, were not exceptions equally to be found among landed proprietors, and even titled nobility * ?

The *delectus* has been defended upon the principle, that if alienation was allowed, the proprietor would be subjected to the risk of getting a worse farmer to his farm. But, upon the common principles by which other matters are regulated, the proprietor may be assured, that, upon the system of free alienation, the farm will always fall into the hands of the highest bidder ; and the man who gives most, can do it in no other way, than from the raising of most produce at least expence, through superior skill, or industry, or capital.

Devastations, it is said, might be committed, in allowing a tenant's creditors, or assignees, to enter upon his lease. Such devastations of an estate, no doubt, inevitably ensue upon the creditors of the proprietor entering into his place, *with full command of the subject* : Nothing of this kind could happen from those substituted in the original tenant's *limited right* ; as they can do nothing but what he could do—will do nothing for their interest, but what he would have done for his—and are obliged to perform every thing to which he was bound.

The retention of the chance of forfeiture of the lease, after the farm has been improved, by fixing in it the tenant's capital—if ever such an idea was entertained by any pretending to the name of gentleman—is unworthy of refutation. Under risk of forfeiture, who would risk his capital, when, in other professions,

* A ludicrous incident happened in this county.—A proprietor, through mistake of names, though, no doubt, in consequence of his having offered most rent, let a farm to the ringleader of the county militia mob. The matter is of no consequence, however much such things may be magnified into importance : Any other he had pitched upon might, in the course of a nineteen years lease, have become a militia mob leader ; and might have needed a Tranent military execution to enlighten him, and to keep him correct.

professions, it may be outlayed without such risk? In an unassignable lease, tenants, no doubt, lay out their capitals under more or less risk of eventual forfeiture; their security lies in the faith they repose in the honourable character of landed gentlemen; and I believe there have been few instances in which that faith hath been frustrated. But of what use is it to retain a chance of forfeiture, when there is no purpose of exacting it when it occurs? An independent security is surely a more encouraging footing, for the liberal unrestrained outlay of capital, than the more precarious one, founded in dependence upon another's character. In the latter situation, there is a degradation, which, other things being equal, would lead men of capital to prefer other situations of greater respectability*.

The manners of the tenant have been considered as a reason for retaining the *delectus* †. Upon the general principle on which

* In the pattern county of Berwickshire, improvements, seemingly originating among proprietors, were completed, over the county, by tenants holding by leases of from thirty to fifty-seven years endurance. In the specimens of leases, exhibited in the Report of that county, the tack is more or less strictly confined to heirs and successors. And the exclusion of assignees, of assignees legal or voluntary, and of executors and subtenants, are found more and more explicitly expressed, as we approach the present times. Were the proprietors become more and more anxious of retaining the chances of forfeiture, in proportion as land became more and more improved through the more habitually liberal outlay of the tenant's capitals? Did the tenants ever apprehend, through preconception, or from experience, that advantage would be taken of these excluding clauses, when opportunity offered?

These probabilities of *virtual* forfeiture, which may occur through the *delectus*, as already stated, reducing the tenant's *real interest* to that of a mere life-tenant, make it not unforeign to relate what has been stated to me, by Mr Alexander Dalziel, formerly factor on Lord Glencairn's estate of Kilmarnock, 'that the very worst-managed farms upon that estate (yielding, by far, the least produce, and probably, also, the least profit to the occupiers) were two, which had been let, in life-tenant lease, at a mere quit-rent, to two favourites of the family.' Here, through the injudicious mode of its administration, we see an instance of liberality, at once, most expensive to the donor, most unprofitable to the receivers, and most detrimental to the public, in condemning a proportion of the lands to a state of comparative sterility!

† A kind of morbid sensibility is excited upon this subject, from a grotesque identification of the proprietor with his property, as if it, literally, constituted his

which lands are let, of preferring the highest bidder who seems to have sufficient stock, I should apprehend, that little respect is paid by proprietors to the companionable qualities of their future tenant; nor that they interest themselves much in his being a man of wit or agreeable conversation, or whether his complexion is fair or black, or that he answers to the name of Hugh, rather than to that of Peter. If a regard to neighbourhood had influenced the mode of thinking, in law or practice, as to the *delectus*, it would particularly have appeared in urban tenements. But all leases of these are, by law, assignable. The mere aperty of feudalism, is the origin of the *delectus* in the person of the farmer.

A more serious objection to the granting a power of alienation, in whole or in part, seems to found itself in actual experience. From the miserable state of the actual cultivators, in the Highlands of Scotland, and in Ireland, under subtacks held by them from the original general tacksmen of farms, an apprehension seems to be entertained, that if power of alienation, by assignment or subtack, were granted in leases, the cultivation of the lands would be, in a similar manner, devolved upon a parcel of mere beggars. In this objection, it appears clearly, in my opinion, that the effect is misapprehended to be the cause. It is the deficiency of farming capital, and the beggary of the cultivators of the soil, that give rise to the middlemen, or tacksmen; not the tacksmen that cause the beggary of the cultivators. The misapprehension, however, is readily fallen into: It is not unprecedented in other similar instances: It is like the prejudice which would lead us to conceive, that the retail shopkeeper enhances, instead of cheapening, to the consumers, the articles got by him, at first hand, from the farmer,

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proper subsistence; and from a strained analogy, thence derived, betwixt the *dressing* of his land and the *dressing* of his person. It would indeed be an unjustifiable piece of arrogance, in a valet, were he to delegate the shaving or flesh-brushing of his master to other hands, without considering him as having a *jus delectus* in the matter, or asking his consent. It would, however, be a very fanciful sensibility, that would lead a person to feel as jealous of the handling of his *coat*, as of his natural *epidermis*; and to object to the tailor, whom he had entrusted with its repair, for devolving the execution upon his journeyman or apprentice. The tailor is paid; the farmer pays.

or the manufacturer. In fact, the middle tackfman is only factor for the proprietor, who, rather than collect his rents from such a beggarly tenantry, chooses to let his lands a little cheaper to one who will be at the trouble of collecting, and who will thus also subject himself to become bound for the whole rent*. No South-country farmer, who has gone to farm in the Highlands of Scotland, has ever yet been found to parcel out his lands among such minute beggarly cultivators, equally destitute of both capital and skill: He has ever found it more advantageous, to cultivate upon the strength of his own capital, under the direction of his own skill, than to accept of the highest rent which such tenantry could pretend to offer; and to give them more in wages, as servants, than they could ever make for themselves as occupiers of the soil. In consequence, is it not evident, that, even under the newly introduced occupancy of sheep, Highland districts have become more populous? Without pretending to preternatural foresight, I shall, without hesitation, risk the character of my skill, in predicting, that, so soon as effective military force shall have restored quiet, and security of property, in Ireland, the system of middle tackfmen, and beggarly cultivators, shall instantly disappear; whenever capital and skilful farmers, from the improved districts of Britain, shall, as no doubt they will, find it convenient to settle in that country; and that there shall be, *there*, no more of minute occupancy of land, than what necessarily takes place, upon the principles explained in the preceding Note C.

I offer no kind of apology for dwelling, at such length, upon this part of the subject. I know, that, in the opinion of various persons, Agricultural Reports ought to be confined (as to general observation, over and above the mere report of facts) to practical directions to the farmer as to modes of farming. If proper encouragement is given to attract capital to farming,

equally

* A clergyman of my acquaintance obtained, through succession, some old houses, at Edinburgh West-port; they were occupied as low bawdy-houses; and he gave a house to a crook-backed barber, for collecting the other rents. It was not the intermediation of the barber that made the other occupiers whores; it was their being whores that occasioned the intermediation of the barber, as tackfman of, or factor upon, the whole.

equally as to other professions ; by establishing it in equal security, as to possession, and transmission, and alienation ; the farmer would need no more instruction from bystanders, than any other professionalist, whom it would be considered as impertinence to instruct : In an age of general knowledge and communication, he would find no difficulty in instructing himself. It would be incongruous to attempt to instruct a galley-slave in the art of navigation, or a West Indian negro in the proper management of a plantation of sugar canes. Give men sufficient interest in the practice, and they will find out instruction. The encouragement for capitalised men, to betake themselves to farming, is good : it might be made better. If it is not equal to what is found in other professions, no capital will remain in it, but what has been addicted to it, through habit ; and, of that, even a part may deviate into other employment. There can be no harm in bringing such an interesting subject under dispassionate discussion—though, unhappily, the press is oftener applied to the infamous purpose of inflaming the mob, than to that of enlightening the public.

The Extent of the Use of the Soil, communicated by the Lease, is the next circumstance to be considered.

Though the independent proprietor cannot farm his own lands to advantage ; but finds it necessary to his interest to let them in lease to the professional farmer ; yet, it seems to be with reluctance, that he consents to part with the command and management of his subject ; and he parts with as little of it as possible. I doubt not but that the moidered man might feel the same reluctance, in relinquishing the command of the money he lends at interest. He must consent, however, to lose sight of his subject entirely : He understands not, nor pretends to understand, the secrets of trade and manufacture ; and his confidence must be entirely placed in the men, and not the measures. There can, on the contrary, be no secrets in the cut-of-doors profession of husbandry ; and every one affects to judge of what he thinks he sees passing daily under his nose. The proprietor, therefore, frequently affects to direct the whole of the farming operations, during the whole course of
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the lease. A resident proprietor, who has paid some attention to farming, may, indeed, assume such direction, without any great degree of absurdity: It is not a little ridiculous, to see such direction assumed by a business man, of the profession of the law, very commonly a resident Edinburgh cit; and provided, probably, with one universal model, like the bed of Procrustes, to which all practice must, equally everywhere, be adapted: With equal propriety might he, in general, presume to regulate the practice of manufacture, or of trade, in those professionalists who rent the houses belonging to his employer, or who borrow his money at interest.

Even when most judiciously planned, according to the existing rate of agricultural skill, restricted management, through the whole course of the lease, is but of very ambiguous tendency. It may prevent the best presently known system from retrogradation; an event little to be dreaded, as its superior production, if it is really an improvement, would infallibly insure its continuance—so long, at least, as tenants, like other people, are supposed to be guided by a sense of self-interest: But, on the other hand, they as effectually prevent the trial, or even the adoption, of all new improvements, however superior. Perhaps, an improved mode of management may thus, sometimes, be forcibly introduced, a little sooner than it would have been voluntarily adopted*. The substitution of enforcement, under
penalty,

* At the last leasing of Count Lockhart's estate in Clydesdale, a mode of management was prescribed, so judiciously planned, in reference to the soil, climate, and local circumstances; and so considerately attentive to the tenant's interest and accommodation; and with such latitude of discretionary management, to suit such eventual circumstances, as could not be foreseen or provided for—that, not only did the restricted tenants set about the prescribed management, with unreluctant alacrity, from conviction of its tendency to secure their own advantage; but those also, who possessed upon unexpired leases, liable to no such restrictions, immediately adopted the prescribed mode of management.

In the instance of the restricted tenants, restriction would appear to have produced the best effects: In the instance of those not restricted, mere instruction had equally good effects. So that this experiment is, as to inference, just so broad and so long.—The restrictions of management were planned by Mr Lowe, a professional farmer of long-tried ability, experience, and integrity.—Such men may pretend to prescribe rules to professional farmers.

penalty, to a sense of interest in the tenant, is, however, at best, but an awkward, unkindly, and up-hill sort of introduction.

Let men of capital be attracted to the profession of farming, by rendering the situation of tenants as secure and independent, and consequently as respectable, as that of persons launching out their capitals in any other gainful profession, and no prescription of management would be at all necessary, during the currency of the lease, in an age of awakened industry, and of prompt and universal communication. The tenant's interest would lead him to wish for, and his means to procure, the very best information; and he would infallibly be led to adopt that mode of culture, which insured the largest production. If capital is banished from agriculture, by such restraints as beggars only would submit to, beggars alone can we have for tenants; and it is in vain to think of enforcing management, which they have not capital to execute, under the sanction of penalties, which they are unable to pay.

But though, during the currency, no prescribed form of management seems necessary; though the matter may be, *then*, left to the tenant's sense of his own interest; yet, during a few years near to the expiry of the lease, regulations would seem indispensably necessary. For a few years, it is evidently the tenant's interest, unless indeed he has already contracted for a new lease, to draw from the land every thing it can produce, without being at any expence in recruiting its power of production, as he is not to suffer by its ensuing sterility: Or, if it chance that the farm has been taken by another tenant, the connexion of long possession (probably the only original right of appropriation of land) may make him entertain a sort of feeling of injury, upon his ejection; and may lead him to adopt deteriorating practices, emulously, and to his own hurt, merely to gratify his resentment against his successor, who (as he half conceives) has *usurped* his place. Restrictions, as to the last three years of possession, would seem sufficient to secure the interest of the proprietor; whilst they prevent not (in a lease of 20 or 30 years endurance) the adoption of improvements during the currency; which, if evidently advantageous, might, by mutual consent, suggest alterations as to the restricted years.

In 57 years leases, leading to such permanent improvements as those which, in Tweeddale, are carrying on upon the estate of Neidpath, no restrictions whatever would seem at all necessary; as no farming practice, towards the close, could undo what had been done at the beginning of the lease.—(See p. 104, &c.)

Restrictions, in Tweeddale, are but of late introduction.

In regard to hill sheep pasture, it seems generally understood, that the outgoing tenant shall not plough such land as had not formerly been in use of tillage. In regard to the arable croft land of sheep farms, there seems no restriction to have been in use; excepting, merely, that no dung shall be carried off the farm, but shall be either applied to raise crops, or be left to the inrant tenant, at a fair valuation. As to the outfield arable land of sheep farms, the practice seems not at all accurately defined. Attempts have been lately made by proprietors, to have it ascertained, that no such land shall be broken up from grass, without previous liming, teathing by folded cattle, or other manuring. As the measure of the execution must, however, be referred to arbitration, arbiters (who can have no equitable rule but the custom of the country) will sustain a very lax execution, when melioration is enforced beyond the extent of custom: It would be, indeed, iniquitous, to enforce melioration upon the tenant who came to a scourged farm, and of course expected, from custom, the same advantage at his removal. Where there is positive law, or express stipulation, there can be no injury in being compelled to perform what was foreseen and assented to: It is iniquitous, to deprive any one of advantages he was reasonably induced to expect, by any *ex post facto* law, regulation, or adopted interpretation.

The regulations, formerly, as to arable farms, extended no farther than what has been stated as to the croft lands of sheep farms.

In regard to the restriction proper for the last three years in arable farms, and the rotation land of sheep farms, the following restrictions would seem proper, and at same time all that are necessary. For the proper understanding of their propriety, it will, however, be proper previously to state, That the term of entry to all Tweeddale farms is at Whitfunday, as to
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the pasture grafs and houfes ; and to the arable land, at the fe-
 paration of the crop from the ground ; the crop being the way-
 going crop of the outgoing tenant * : That the poffeffing tenant
 fhall, in his laft crop but one, fow out, with clover and rye-
 grafs in fpecified proportion, one fpecified portion of his rota-
 tion land, anfwering to one of its divifions in the courfe of ro-
 tation ; the faid portion, the year before, having been under
 green crop fallow, with all the farm houfe-dung applied to it :
 That he fhall, in his laft crop, allow the incoming tenant, or
 the proprietor, to fow grafs feeds, along with his crop, upon
 a fimilar portion of his rotation land ; faid portion having, the
 preceding year, been under green crop fallow, with all the dung
 applied to it : That the Martinmas before the Whittfunday of
 his removal, he fhall plough a fimilar portion, which he fhall
 leave to the intrant to fallow ; and that he fhall lay no dung
 upon his waygoing crop, but leave his dunghill to the intrant
 tenant, that he may apply it to his fallow green crop : That the
 intrant tenant fhall purchafe the hay crop at a fair conjectural
 valuation at Whittfunday, fown as per firft mentioned restric-
 tion : That he fhall pay the outgoing tenant, per valuation,
 for the eftimated damage that may be fupposed to accrue to his
 crop by fowing grafs feeds, per fecond mentioned restriction,
 in taking nourifhment from faid crop, as weeds : That he fhall
 pay for the third portion, left ploughed at Martinmas, for him
 to fallow, per third restriction, at the rate of the eftimated pro-
 fit which the outgoing tenant might have derived from crop-
 ping it : And alfo, that he fhall pay for the year's dung left, at
 fair valuation of its worth ; or elfe, that the outgoing tenant
 fhall be at liberty to difpofe of it by open auction ; in which
 cafe, the intrant tenant has, at leaft, the preferable advantage,
 of being excufed carriage.

Perhaps, it might alfo be eligible, that the intrant fhould
 have privilege of fowing grafs, to produce an earlier fward over
 all

* The cuftom in Tweeddale is fo well underftood, that, inftead of the tack ex-
 preffing that the removal from the grafs is to be at Whittfunday, and from the
 arable, at the feperation of the enfuing crop ; moft of the tacks merely bear, that
 the entry is at Whittfunday, and the removal at Whittfunday : The reft is under-
 ftood.

all the crop ; paying, as already specified, for the estimated damage that might accrue to the outgoer's crop, by abstracting nourishment.

The incomer would thus, at once, be set a-going in the best rotation system presently known ; having sown grafs, for green house-feeding, the first season ; grasses sown, to come in the next season ; fallow, for green Winter feeding the first year, &c. So that, at once, he would be in proper rotation, which he need not be again thrown out of.

Size of Farms.

In regard to the size of farms, as in regard to every other condition of their tenure, it is my opinion, that this should be left to regulate itself, by the effectual demand of the market ; upon the simple principle of *who bids more ?*

More rent cannot be offered for a farm, under one condition of tenure, as to size, duration, or other circumstances, than under any different condition of tenure ; but solely from this cause, that, under the former, it can be made to yield more produce, at less expence, than under the latter †. So soon, then, as there exists in any country, a sufficiency of agricultural skill and stock, to occupy the whole lands in the most profitable, because the most productive manner, the interest of the proprietor, and of the farmer, will both concur to reduce, in time, the whole under this most productive mode of occupation. The farmer follows this mode for his own interest ; and he who does so, can offer most rent for the farm. This is an irresistible tendency, which artificial regulation may foolishly attempt to counteract ; but which will infallibly counteract every opposing regulation. (*See pages 202, 203, as also the subsequent note F.*) *.

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† *More produce at less expence*, is a system declaimed against as inimical to population. The same clamour might, with equal reason, be raised against *machinery*, in manufactures.

* The maxim of the Latin poet can no where be better applied—

Naturam expellas furca, tamen usque recurret.

Whilst agricultural skill and stock are deficient, farms may be either too large, or too small. They may be too large, when a farmer gets upon his hands a tract of desert waste, which he has neither sufficiency of stock to improve by surface culture, or even to plough up with cattle to consume the natural pasture; because, through deficiency of agricultural stock, the landlord found no competitors for a division, and wished, nevertheless, to have the farm taken off his hands. They may be too little, when, from want of the proper establishment of the subdivision of labour and employment, (towards which, too, there exists an irresistible tendency, through the mutual interest of all concerned—See preceding Note C, and page 48.), and of outlet to more profitable business, a farmer's family continue to occupy his farm in the unprofitable modes of minute subdivision, or of conjunct counterthwarting management; instead of lending their stock at interest to one of the individuals, which would be more profitable, the rest betaking themselves to other professions; and no relief being to be obtained by spreading such minute capitals into the occupation of a greater extent of lands, as such farms would be too large.

Till sufficiency of capital has accumulated out of savings, we must rest satisfied with the best practicable, instead of the best conceivable, mode of occupation. As stock and skill increase, the interest of all concerned begets an invariable tendency to the most productive and most profitable occupancy, independent of any artificial regulation to that effect, and in defiance of any regulation to the contrary. Our tribe of disinterested politicians, who are continually torturing their brains in devising schemes for the public good, may rest satisfied, that, if they are good for any thing, they will take place without any interference; if they are good for nothing, though the public good may be embarrassed, it will not altogether be defeated, by regulations attempting to enforce them. This natural tendency to arrangement, under the mode of most profitable occupancy, is obstructed, through the restraining influence of the proprietors' *delectus persone*, which prevents the
alienation

alienation of leases, or commodious interchanges of lands held under lease, on the part of the tenants; and by the cramping influence of entails, which obstruct similar profitable arrangements among proprietors.

The subject being an interesting one, it may not be improper to enter into a more minute discussion; and to endeavour to investigate the circumstances that constitute the most profitable mode of occupancy of farms; together with the principles that lead to their dilatation to their proper size, and to their circumscription within their proper bounds; upon the supposition that there exists a sufficiency of agricultural skill and capital for the best possible occupation of the whole lands.

In every particular instance, the skilful and experienced professional farmer is the only competent judge of the arrangement of any particular district into farms, so as to render each farm of the most commodious construction for the most productive and the most profitable occupation. There are, however, certain obvious general principles relative to farming; from whence any person of reflection, though but moderately skilled in the practical details of farming, (as I confess myself to be), may deduce some decided general conclusions as to the most profitable mode of occupation.

Every person, in the slightest degree acquainted with the subject, must know, that, in farming, every scheme of management comprehends under it a long detail of practice, which must be gone over within the season; as also, that there is a particular period of each season exclusively adapted to each particular part of the practice, which, if neglected, cannot again be recalled. This takes place, to a considerable degree, even in a mere pasture farm, where the necessary operations are comparatively few and simple. It takes place, to a very great degree, in an arable farm, where the operations are more numerous and complex: There, every variation of the season; every change of the weather, varying often, in our uncertain climate, many times in a single day; every variation in the state of preparation of the soil, or of the state and situation of the crop; all constitute emergencies, calling

ing for instant decision as to measures, and as prompt and vigorous execution.

In the similar situation of war, to the operations of which those of agriculture bear, in this respect, the most striking analogy, every nation of the earth have ever perceived the necessity of submitting the management entirely to the conduct of a *single will*:—from the subject of the despot, accustomed to unreasoning, implicit, and instantaneous submission; to the subject of the most anarchical democracy of ancient or of modern times, where temporary will is the only law, and where the business of government might often be at a stand, till the prevailing party could rid themselves of the opposition of their antagonists, by the assassination or banishment of their majority. In the like situation of agriculture, the jarring of counsel and contention for preference of schemes, are equally incompatible with that promptitude of execution, which, in both cases, is alike indispensable: The instant of execution must, in either situation, be seized, lest opportunity evaporate during protracted deliberation: The republican administration can only suit situations, where there either is no business, or a great superfluity of time.

It would appear, then, one indisputable maxim, in regard to successful farming, ‘that, other things being equal, a farm can be occupied to much greater advantage, by a *single farmer*, where the management is directed by a single will, than conjointly, by more than one, in conjoint possession.’ Under such single unembarrassed direction, a moderate proportion of intellect and of energy will go much farther towards profitable farming, than a much greater proportion of both, in a conjoint farm under conjoint management; where the time of action must often be consumed in jangling contention about preference of counsel. Our Scottish proverb is here most strictly applicable, ‘*A migen pot never played well.*’

Small farms, of such diminutive extent as *not to do their own turns*, that is, of such small dimensions as to be insufficient to maintain upon them such an abundance of labourers and working cattle as shall suffice for every different work, which must
often

often be carried on at once in each period of the season, without being idle for want of employment for a great part of every season; and where, of course, neighbouring farmers are obliged to join in mutual co-operation; implying, necessarily, concurrence of wills; or otherwise to keep, each, an expensive superfluity of labour in constant preparation: Such farms may justly be considered as a species of conjunct farms, and as liable to the same defects, in point of productive construction.

So far as we have proceeded, it seems indisputably essential to the most profitable occupancy, 'that the farm should be held by a single farmer; and that it should be able, in point of size, to afford constant employment, at all times, to such a number of labourers and working cattle, as shall suffice to execute every necessary operation, at every time, without necessity of co-operation.'

It is the evident interest of every farmer, to aspire after the occupation of as great a quantity of land, as the extent of his capital can enable him to manage, in this plenitude of occupation; where every part of the farm is kept in its most productive state, by sufficiency of labour; and where no preparation of labour is kept in readiness for emergencies, but idle for the most part; but where the whole capacity of labour is in constant productive employment. And this appears to be the principle of interest, which will uniformly operate in dilating farms to their proper size.

But what then are the principles which will confine farms within their proper bounds? And how are we to be secured against the so much dreaded danger of farming monopoly? Will the circumscription of farms ensue of itself, when matters are left to take their natural course, to be directed by the sense of self-interest in those immediately concerned? Or must we apply to the *cunning men* to devise for us a set of proper artificial regulations to counteract all natural tendencies in the subject?

To me, it appears clear, that this matter will, also, arrange itself, in the best possible manner; when things are left, without

out disturbance of intermeddling interference of regulation, to take their natural course.

For, *personal undelegated management* seems just as essentially necessary to productive profitable farming, as *single direction*. To conduct a farm by means of an overseer, is the pitiful resource of an independent gentleman farmer; when, with the habits of his station, he commences practical farmer in detail; and the success is answerable to the system. An intelligent, industrious, and economical farmer, can outbid all *his* farming profit, in his offer of rent. To what else, indeed, do farmers paying rent, owe their existence as a distinct class? Compared to the active, sharp, and interested superintendence of an acute farmer, acting at his own risk, and for his own sole benefit, the superintendence of an overseer, without risk, and without prospect of proportional gain, is like the turning of serious business into farce*.

Although the farmer's overseeing of his own overseer, is conducted in a much more accurately fitting manner, than the gentleman's oversight of *his* overseer; yet, as the farmer can outbid, in rent, the gentleman's whole profits in acting by an overseer, it seems readily to follow, that an equally intelligent, active, and rich farmer, can readily carry off any farm from another farmer, who is obliged to commit the management of it to an overseer; by being able to afford more rent for it, in proportion to the superiority of personal to delegated management.

Where, then, skill and capital have arisen, sufficient for the most profitable occupation of the whole lands, the bounds of the capacity of accurate personal superintendence, will limit the bounds of the size of farm: The competition of equal capital, together

* There are exceptions to all rules; there are exceptions in this county: But our present business is with general rules, and not exceptions. The keen sense of personal interest must ever be acknowledged a more powerful spur to energetic industry, than the generally more languid sense of mere obligation of duty.

An overseer, coming from a more improved district to one where improvements are less understood, may, for a while, excel the farmers of the latter district, who farm at their own risk.

together with the superiority of accurate personal superintendence above that which is either too much distracted, or under necessity of being delegated, will necessarily hem every farmer in within those bounds where he can occupy with most advantage.

The limits of the capacity of personal superintendence, will, no doubt, vary with the different degrees of strength of intellect or of energy to be found in individuals; and the boundaries, within which farms will be circumscribed, will keep pace with such variations. In farming, however, as in other professions, eminence is confined to a few; the generality are nearly upon a *par*; and even eminence is finite—and the monopoly of farms is a bug-bear.

The limits of personal superintendence will be less confined, in a pasture district, in proportion to the paucity and simplicity of the operations. It will, for the opposite reason, be more narrowed, in an arable district. Even a superior style of more accurate cultivation of each particular acre, will more and more circumscribe the limits of superintendence, as to the extent of land occupied; though not as to the extent of capital laid out, or of rent yearly paid. The best arrangement of extent will necessarily find its own way.

When Laputa projectors come gravely forward, the one with his scheme of 100 acre farms, the other with his of 50, and a third with a sort of agrarian cottage system, it is difficult to determine, whether our spleen or our laughter ought to be moved. So long as they shall confine themselves to the pragmatical pointing out of their proper interests to the parties concerned, but who, it seems, have not sense to perceive their own advantage; in so far they can do no harm, and the parties will judge for themselves. When, however, they would attempt to enforce their specific *nostrums* by legislative authority, their interference is of a more serious nature than mere pragmatical impertinence.

The Parliament of Great Britain has not been in the habit of carrying measures by acclamation: A sort of prevalent, philosophic, native phlegm, seems unsusceptible of enthusiastic admiration of the brilliant schemes of projectors. The silent operation of the writings of the profound and ingenious Doctor

Adam

Adam Smith, seems to have given a check to the intermeddling spirit of regulation.

In all disquisitions of this nature, public utility is the point of reference upon which all reasonings must bear. In many instances, however, private duty stands, in part, opposed to public utility. It is most conducive to public utility, that he who can pay the highest rent, should be preferred to the farm, as he can only afford to pay it from superior production; yet there may be a call upon the landholder's generosity to prefer his old tenant, though, from inferior skill in rendering the soil productive, he should be unable to afford quite so much rent. But, even here, the principles explained will have their operation: For if generosity is a duty, on the one hand, there is surely a degree of modesty incumbent upon the expectant from liberality: And where, in consequence of more profitable occupancy, more rent can be afforded, an old tenant cannot have the face to ask from his landlord the sacrifice of the whole advantage in his favour: He will find himself therefore obliged to alter his accustomed system of occupancy to that superior one, upon the credit of which, more rent has been offered; that he may offer *more rent* also, although he expects a preference without giving *the most*. Productive occupancy, when adopted, enables high rents to be given; and high rents offered, enforce the adoption of the most productive occupancy.

In those violent changes, ensuing upon sudden and unforeseen revolutions, it may be impossible to devise new methods of family subsistence, upon dispossession: In those that take place gradually, through the progress of the demand for them, as they may more readily be discerned at a distance, it is more easy to provide for them: Yet, in an insulated situation, like the Highlands of Scotland, where there may be less information as to the various different modes of employment that may be resorted to, it might be cruel to introduce such changes, so soon as the demand should require, or as even public utility should dictate.

In regard to the principles regulating the size of farms, I have been much indebted to a chapter, intended for part of a large work by the Board of Agriculture, which was circulated; and

and which was drawn up by my respected friend the late Rev. Dr Thomas Robertfon, minister of Dalmeny.

NOTE E.

Although this opinion is sanctioned by the authority of the late Dr Adam Smith, it seems admissible only to a certain extent.

Many facts are brought to light in the English Reports, from which it appears (contrary to the commonly received notions in Scotland), that, in point of improvement, England in general falls far short of those parts of Scotland where improvements have been of any length of standing. In particular, it appears, that the great bulk of English farmers are kept in a miserable state of dependence, preventing all exertion on their part—from their possessing as tenants at will, without any lease; or upon mere liferent leases; or leases of very short duration: under which unpermanent tenures, too, the whole mode of management is in general specifically prescribed, in regulations sanctioned by heavy penalties; enforcing oftentimes a practice of husbandry the most preposterous and unproductive*.

If conjectures may be allowed, till a sufficiency of facts are established to form foundations for certain conclusions; may it not be presumable, 'that the extension of the right of franchise among the farming interest, as adopted in England in the struggle of Monarchy against Aristocracy, has both *given origin to more early improvements* in that country; and has also, *subsequently, proved the cause of their retardment?*' In England, the possession of a farm by liferent lease, from which the possessor can instruct that he derives a profit of forty shillings Sterling yearly, without deducting parliamentary or parochial

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taxes,

* I am indebted, for these views of the situation of English farmers, to Dr Robertfon's agricultural chapter upon the size of farms, and character of farmers.

taxes, confers the right of voting in the election of a county representative; a qualification supposed equal, at the time of enactment in the beginning of the fifteenth century, to what 20l. would be now; from the difference of the denomination and value of money. As the most usual mode of holding land in farm, for any length of endurance, known at the time of this enactment, was that of life-rent lease, it seems extremely probable, that the political importance, thus generally conferred upon the class of farmers, would procure for them the advantages of security and respect for their interests, as an encouragement to their industry, *more early and more completely*, than they were obtained, in Scotland, from mere views of indispensable utility, or enlightened self-interest. As, however, in process of time, the possession, entitling to the privilege, came, in course of the gradual depreciation of money, to be an object of trifling importance to both landholder and farmer; is it not equally probable, that the landholder would create, upon every farm, little life-rent holdings to the extent of the qualification, merely for the purpose of creating a voter to support his own political consequence; and (as the possessors of such small holdings could not live upon them, independent of a larger extent of farm) that, in regard to this larger extent, he should retain them as tenants at will, or upon very short leases, in order to secure their votes in absolute dependence?

In this county, the inhabitants of the Royal burgh of Peebles held a small farm, for grazing their milk cows, from the Nobleman who managed the political interest of that burgh. They however possessed it, as is presumably the case in all similar situations, only from year to year.

It would be worth inquiring into, whether the generality of English tenants at will, or upon very short leases, are not also voters at elections? No improvements of importance can be expected from farmers having such unpermanent interest. It is no wonder proprietors should place little confidence in their management, and find restrictions necessary.

An injudicious extension of the right of franchise, may thus readily be conceived as a measure which might reduce the enfranchised

enfranchised to the most abject state of dependent servility, destructive of all exertion. The extension of complete security to every class, in regard to personal liberty, life, and property, is the very life and soul of industry; and this, in all probability, depends more upon the enlightening efficacy of the press, under a form of government insuring publicity to all public measures, than upon any precise distribution or arrangement of political power, whether in the direct ratio of wealth or population, or the compound ratio of both.

NOTE F.

Do not the laws against *usury* fall exactly under the foregoing description?

It is without doubt proper that a legal rate of interest should be fixed, at different periods, *as near to the existing market rate as can be guessed*—to take place in all such cases as afford no opportunity of making an optional bargain. Where, however, there is an opportunity of voluntary agreement, there seems just as little need of legislative interference, in settling the terms as to the price of the use of money, as in regard to that of any other article in commerce. In all such cases, the terms may be left, with equal safety, to be settled at the discretion of the parties concerned.

Where capital, properly employed, yields a profit; it is certainly equitable that this profit should be shared betwixt the advancer of the capital, and the person who profitably employed it; being the joint product of the one's capital, and the other's industry. Even if borrowed merely to spend it, it is just that its owner should receive, for its use, what he would have received from one who should have employed it, so as to replace itself with a profit; in the same manner as it would be equitable in the proprietor of an horse to exact the same fare from one who hires him for a pleasure ride, as from another who hires him to work in his plough.—What is given in charity, or lent in friendship, is out of the question.—In the case
of

of money lent for hire, for mutual accommodation, upon mere principles of equity, it seems perfectly just, that the hire, or interest, should not be determined in an invariable specific proportion to the capital advanced, or at so much *per cent.*; but that the lender should receive more or less, in proportion to the profit which the use of money can afford. Nor can any standard be devised for apportionating the respective shares of profit betwixt the borrower and lender, but the existing rate of the money market. Where capital is scarce in proportion to industry, and its profits consequently high; an higher rate of interest will be afforded by the industrious for the rise of capital: Where the reverse takes place, the rate of interest must be beat down, by the competition of capital for employment. Nor does there appear to be any iniquity in demanding more, or offering less, for the use of money, according as the market will allow, than for any other article in commerce. All laws, counteracting these natural tendencies, will themselves be counteracted. Laws fixing the *maximum* of interest, and condemning an higher rate under the name of *usury*, are evaded, in disguising the interest received, under the names of *premiums for the risk, co-partneries, &c.*; devices to which the conveniency of traders will give rise, and which the laws will, afterwards, recognise and sanction, as exceptions to the general rule.

Laws, in regard to the markets of grain, originating in mobbish insigation, have sometimes fixed a *maximum* price, but never a *minimum*. In the same manner, laws in regard to the use of money, have, in every country where they exist, shewn an anxiety merely to fix a *maximum* rate of interest, and to brand all excess with the imputation of criminality; and probably, in almost every language, there is a term equivalent to the term *usury*, and, like it, implying blame. It seems probable, that laws against usury have generally been enacted when legislators were money-borrowers and spendthrifts.

The legal rate of interest is different in every different nation; it has varied in every particular nation, at different periods: The criminality of usury cannot, then, consist in exacting five, ten, or twenty *per cent.* for the use of money; but in exacting more than the usual rate of the market. In all optional

tional transactions, the rate of interest might certainly be left to the discretion of parties, as well as the rate of any other marketable commodity: Nor does there appear any call for the statutory construction of fraud, *in the exaction of more hire for the use of money, than the market rate*, into a specific crime; more than in that of *exacting more than market rate for the use of an horse, or the day's labour of a man*. There seems even less necessity for Legislative interference to guard against imposition in bargains about money, than in bargains about almost any other species of commodity: For whereas the quality of every other commodity may vary *ad infinitum*, under one and the same denomination; the denominated money, specified in the bargain, is always of an ascertained value at the time: The horse I hire or buy, may be, in any degree, serviceable or unserviceable; and the workman I hire, may perform a good or a bad day's work: but the number of guineas or shillings, for the use of which I contract, must prove, upon delivery, exactly what I contracted for.

Art may no doubt take advantage of ignorance and simplicity, in exacting more than market value for the use of money, as well as in other things: There seems, however, no assignable reason why such frauds might not be left to be prosecuted at common law, as well as other frauds.

Doctor Adam Smith, however inimical, in general, to the prevention of suffering matters to take their natural course, seems to approve of the regulation of interest of money, as preventing the lending, at high interest, under risk of statutory infamy, to enthusiastic projectors. I should, however, doubt, if progress, in any thing, is to be expected from mere dull plodders, confining themselves entirely to beaten tracks.

If heirs in reversion borrow money, either necessarily or unnecessarily, (which it certainly is not the business of the lender to intermeddle with, having no right of tutory controul), they ought to bind themselves to higher interest, in proportion to the risk of their succession, and future capacity of repaying. Upon eventual succession, if possessed of honour, such heirs will undoubtedly fulfil their engagement. If they take advantage of laws against usury, and refuse to fulfil it,

it, the law will sanction such breach of faith : But, in so doing, does not the law, at best, only betray its partiality to one class of swindlers, in preference to another ?

The statutory infamy annexed to usury, throws the business of adventurous loan, upon high interest, entirely into the hands of persons regardless of character, who are thus put in possession of an exclusive monopoly ; and the projector, with dubious prospect of success, together with the heir apparent, with dubious prospect of succession, are precluded from obtaining money upon the most reasonable terms, from the prevention of free competition among those who have money to lend.

NOTE G.

IN civilized society there will necessarily arise two classes of persons, who may be considered as unproductive : *First*, those who do not labour at all, because their circumstances exempt them from the necessity of labouring : *Second*, those whose labours themselves are unproductive.

The first consists of those born to independent fortunes, who do not follow the business of any particular profession ; who may be said to be trained up to the enjoyment, and not to the acquisition of a fortune ; and whose system of enjoyment may be, in any degree, dignified and rational, or irrational and mean : This class comprehends the landed and the monied interests. It was the class which, in the late seasons of political ferment, was particularly singled out by the Jacobinical levellers, as a public nuisance, and its funds held out to the poor as the fair subject of division. Persons of this class were represented as *the lilies of the field, who neither toil nor spin ; as the drones in the hive, which consume, but do not make the honey.*

This very simple, and most obvious truth, seemed to have been either overlooked, through incapacity, or suppressed, in malice—that *the allowed existence, with the perfect protection and security of this class, is indispensably necessary to the formation and existence of the class of the productively industrious.* The absurdity of its having been ever called in question, is the only apology

pology that can be offered for endeavouring to confirm a maxim, whose truth is so obviously apparent. For industry, unquestionably, is not at all a *primary* passion; it is only a *secondary* one: Its object is not ultimate, but refers to a farther end. Nobody is capable of the absurdity of setting about acquiring, merely for acquisition's sake; but for the purpose, and in the view of future use and enjoyment: Take away the prospect of enjoyment, and the passion of acquiring immediately becomes extinct. The passion of acquisition keeps, indeed, exact measure with the prospect of enjoyment—*grows with its growth, and strengthens with its strength*. Contract the prospect of enjoyment to the term of mere life-tenant possession, and the passion of acquisition will form itself into a consonance with this limited prospect: Enlarge it to the succession of heirs, or other natural objects of affection, and the secondary passion will undergo a similar enlargement. Thus, in countries where there is no security of the transmission of possessions after death, he who has acquired what he thinks will suffice, according to his plan of enjoyment, for his own life, ceases, we are told, to be any farther industrious.—Hence, also, the high veneration for old trees; because few plant—as the planter cannot expect, himself, to be benefited by the shade, and has no direction as to the persons who may enjoy it.—Hence, in short, every industrious exertion limited to the view of almost present use; excluding the possibility of the accumulation of extensive capitals*.

In this instance, as in others, the secondary passion, no doubt, will frequently usurp the place of the primary; and attachment to the means, though originating solely in attachment to the end, will take such entire possession of the mind, as absolutely to banish the original purpose out of view; and the man, become thoroughly avaricious, will expose himself to suffer all the hardships of extreme poverty, from his original anxiety to avoid them; much in the same manner as, in former times, the study of the antient languages, undertaken originally as the only key to knowledge, came oftentimes to be considered

* Volney's Travels into Syria.

sidered as a primary object ; to the total neglect of its use. But the question is not, as to the modifications which the primary passion may undergo ; but, as to the origin and the possibility of the formation of the secondary passion : In which view, there can be no doubt whatever, but that the protection and security of *the enjoyers of fortune* are perfectly indispensable to the original existence and formation of *industrious acquirers*.

In this class of men of independent fortune, we expect to find an extent of intellectual range, in taste and literature, suited to their greater leisure—more of generosity, liberality, and disinterestedness, though, generally, somewhat less of enterprize and activity, than what are to be found in those whose habitual bent is directed towards acquisition—more of public spirit, with more enlarged views of public utility, than in those whose minds are narrowed to the continual pursuit of private interest. Their situation, and the habits consonant to their situation, point them out as proper to manage matters of public concern. Our expectations may, too often indeed, be belied : and, without doubt, no class of men is exactly what it ought to be. Many of this class may be considered as mere *fruges consumere nati*—mere *cumberers of the ground*. Worthless, however, as they may chance to prove, their protection and security is, nevertheless, indispensable to the existence of the class of the industrious—in a moral view, just as generally worthless*.

The second class of the unproductive, are those whose labours themselves are unproductive. To this class may be referred, lawyers, physicians, and divines ; together with the professors of the liberal arts ; and those who cultivate the mere
abstract

* In every thing by nature progressive, our estimation is formed by comparison. The general rate of attainment constitutes the standard of mediocrity ; within which, the great bulk will ever be comprehended. Extraordinary excess or deficiency, are alone considered as deserving of high praise or censure. During the late war, for example, such was the high rate of attainment in the British navy, in regard both to daring enterprize, and to skilful, spirited, and successful execution ; that the seaman could expect no more than mere justification, who did not both undertake and execute what, it would, formerly, have been accounted madness even merely to have attempted.

abstract sciences of quantity and number. None of these, at least immediately, reproduce their consumption by their labours.

In a manner more circuitous, a number of these labourers are, nevertheless, by far the most productive of all; tending to increase, often in an almost incalculable *ratio*, the effect of immediately productive labours, by the discovery and application of the mechanical and other natural powers. All of them have the common tendency of awakening the powers of intellect; without which, mere brute force must remain pitifully circumscribed in its operations. They all tend to enlarge the sphere of human knowledge—to arouse, into energy, the nobler faculties of the human soul—to vindicate the superiority of the man over the brute. They may not, at all times, either immediately or ultimately, tend to produce wealth: But of what use is acquisition, but for the purposes of enjoyment? And they hold out the means of dignified enjoyment, in which there is no debasement or degradation.

Mendicant idlers, who contribute nothing either to the use or to the ornament of society, by the labour of the body, or of the intellect, fall under neither of these classes—are, absolutely, good for no valuable purpose—and deserve no toleration.

NOTE H.

IN a correspondence with the late Doctor Robertson of Dalmeny, upon the proper size of farms, I found, that the only advantage suggested by him, in favour of *small farms*, was, the prevention of the too great, or the too early heightening of the market price of grain; in consequence of the necessity such small possessors laboured under, of selling immediately, to procure money, from deficiency of stock to enable them to keep up their grain for a high price: not, however, that such advantages were either so certain, or of such importance, as to call for either public or patriotic individual interference, in order to

force the lands into such small divisions, to a greater extent than what would naturally take place in course of the demand for them.

In this view of the matter, the question as to the utility of small farms, naturally resolves itself into the question, as to the good or bad effects upon the market of grain, of a *deficiency* or *superabundance* of capital stock in the hands of farmers, or other merchants of grain.

In the *first place*, then, we shall attempt to trace the natural and necessary effects of a *deficiency of capital*.

Were we, then, to suppose a large proportion of the crop vested annually in the hands of small farmers, who, from deficiency of stock, are obliged immediately to bring their grain to market; and were this not remedied, by the intervention of a sufficiency of corn-merchants possessing stock to enable them to buy it from them, and to abstract it from the consumpt-market, by storing it up; the consequence would be, an over-cheapness at the beginning of the season, which would cause a rate of consumpt be entered upon, that would infallibly terminate in absolute famine in the end of the season, were it to continue at the same rate till all was exhausted. Luckily, however, the remaining few of the holders of grain, who had capital sufficient to keep it up (so long as the market was glutted by the sales of those deficient in capital), would be enabled to over-enhance their price *now*, in proportion to the over-cheapness that had prevailed *before*; proportionally to the over-scarcity *now* taking place in the market, in consequence of the overplenty in which it was *before* supplied: And this comparative dearth, which would of course take place, would also be indispensably necessary, in the view of public utility, in order to reduce the consumpt from its former extravagant rate, to such a rate as should enable the remainder of the supply to last till the return of another crop.—To the consumer, the consequence would be, a surfeit, followed by a short allowance, instead of moderate, equal feeding; a cheapness, followed by a proportional dearth, instead of a moderate, equal average price of the season; the dearth and scarcity, too, aggravated probably
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by that absolute waste occasioned by the over-plenty and cheapness in the commencement of the season, which would not have taken place under the average price.—The advantage, it is evident, could never accrue to the consumer; it would remain entirely with the few farmers or corn-merchants possessed of large capitals: What takes place in every business requiring capital to carry it on, would take place here—*where capital is scarce, its profits are high.*

In the *second place*, let us attempt to trace the effects of a *superabundance* of capital.

Upon this supposition, as none of the holders of grain would be under the necessity of selling it immediately, it *might* be withheld from market till an over-dearth of price took place, from miscalculation, in the holders of it, as to the existing supply of grain in the country; a subject susceptible only of a rough guess, even by those who have the strongest personal interest in ascertaining it, and far less ascertainable with precision by Magistrates, or by the Legislature. In proportion, however, as the victual-holders felt a slackness in the demand at the existing prices, which made it seem probable that a surplus would remain undisposed of in their hands, they would certainly endeavour to avoid this, by lowering the price, as every other dealer would do in like circumstances, especially with a commodity of so perishable a nature. Upon supposition, then, of the worst effects to be dreaded from a superabundance of capital, the consequence would just prove the reversing of that state of the market which has been noticed as the effect of a deficiency: The consumer might first experience a temporary dearth and short allowance, to be followed by a succeeding proportional cheapness, and full allowance.

In judging betwixt the worst effects to be dreaded, as to the rate of the market, from a deficiency on the one hand, or, on the other, from a superabundance of capital in the possession of farmers, or other merchants of grain; the two alternatives are left to the consumer to decide upon, viz. (to use an homely phrase) whether he would prefer, *first a burst, and then a hunger*; or, *first a hunger, and then a burst*,

The effects of deficiency are, however, necessary and unavoidable. From the necessitous situation of such dealers, their conduct is not with them a matter of choice. In regard to the capitalized corn-holder, his conduct is optional, and no way forced upon him by the necessities of his situation. It is in his *power* to alleviate the dearth which ensues, upon withholding too much his supplies, from miscalculation of the crop; and it is as evidently his *interest* so to do, by then bringing forward his supplies more liberally, lest they should rest undisposed of upon his hands. Where there is universally a sufficiency of stock among the dealers in grain, none of them are then obliged to sell in glutted markets; none of them can withhold from market, in any reasonable expectation that others are obliged to sell in glutted markets—to the increase of consumpt from cheapness, and the enhancing of the price of the remaining supply, through the thus occasioned scarcity. As every one is equally ready to supply the demand as it arises, and as each is equally enabled to withhold from glutted markets; the tendency of these universal efforts of the whole dealers is, to keep the supply and the price at an equal rate through the season. None can form a reasonable expectation of selling at a price above the average price, proportioned to the plenty or scarcity of the crop; and it is the interest of each to sell, so soon as he can obtain what, to his best calculation, is the average price. *Where capital abounds, its profits would thus be reduced, from competition.*

Judging of the deficiency or abundance of stock in the hands of farmers and other corn-dealers, by the fluctuation or steadiness of the price of grain, we should seem in most danger of suffering inconvenience from its deficiency; for though the certain prospect of a very plentiful crop will sometimes produce a fall, in price, of the remainder of the preceding crop upon hand, yet, in general, the price is higher towards the termination, than the commencement of each crop. Less variation, in this respect, takes place now, it is believed, than what took place twenty or thirty years ago; which is a favourable symptom of the increase of agricultural stock.

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The fluctuation or steadiness of the market price of grain, through a single season, seems greatly to depend upon the deficiency or abundance of capital stock in the hands of farmers and other dealers in grain; except in so far as the immediate prospect of more than ordinary plenty or scarcity in the succeeding crop, has an effect in lowering or heightening the price of the remainder then upon hand. The enormous variations in price, which take place from season to season, depend, however, upon the variations of the crop as to plenty or scarcity; and the prices must, of necessity, follow these variations of the crop, till such time as some method be invented of preserving grain for a continuation of years, so as to enable the merchant of grain to embrace, in his calculation, a series of seasons, instead of confining them, as he does now, to the existing supply from the crop of single seasons.

Could a method be devised, of preserving grain through a continuation of seasons, so as to render it possible (not merely, as at present, to transfer a small quantity of the surplus of *one* season of plenty, to the relief of *one* succeeding year of scarcity, but) to carry on the superabundance of *several* succeeding years of plenty, to cover the deficiency of *several* succeeding years of scarcity, as was done by the Patriarch Joseph, with the thoroughly ripened grain of Egypt, in the case of the seven years of plenty, succeeded by seven years of barrenness; and, were there abundance of capital in the hands of farmers and corn merchants to suffice for so extensive an undertaking: In that case, the calculations of the market would no longer be confined to the mere existing supply of single seasons, but (through mere strength of natural sagacity, tracing the usual run of seasons, though unassisted by the revelation of dreams) might be extended to embrace considerable periods of time; and might thus give a steadiness to the market prices of grain, suited to the average of years, instead of that of single seasons; reducing the variations of price to differences of five, ten, or fifteen *per cent.*, instead of the present usual fluctuation, from season to season, to the enormous differences of fifty, an hundred,

hundred, or two hundred *per cent.*—In short, the price of grain might then be kept to somewhat of the same unvarying steadiness as the price of broad cloth; and though a surfeiting excess of plenty would thus be prevented, a dearth or a famine could never possibly occur.

Till some method is devised, of preserving grain for a considerable number of years, each year must continue to depend, for its supply, chiefly upon its own crop; and, in case of deficiency of the crop, as it is not *in the power of man to create grain out of nothing*, short allowance becomes necessary, to prevent famine; unless the deficiency can be supplied by importation from other countries. Supposing the usual annual consumption of a country to be equal to the crop of an year of usual plenty; and supposing, in a bad season, the crop to amount only to three fourths of that of an year of usual plenty; it is evident, that if this crop is consumed at the same rate as in an year of usual plenty, it will last only for nine months, and leave no provision for the other three. It is short allowance, alone, that can *then* prevent a scarcity from ending in absolute famine.

Dearth is the natural means of producing diminution of consumption, so as to prevent famine; it is an harsh remedy, but a sure one; and one that will occur of itself, exactly in the proportion necessary for that purpose, if things are left to their natural course. Every farmer, or other dealer in grain, (whatever they may pretend to the contrary, to avoid popular odium), will, for their own interest, endeavour to obtain the highest price that can be afforded; *proportioning the price in such manner to the power of purchasing, as that the whole existing supply may be disposed of at that rate, without leaving on hand any remainder undisposed of.* If the price is either over or under-calculated for that purpose, the interest of the dealers will lead them to rectify the mistake. If the price is over-calculated, it will soon be found, from the diminution of the demand, that the whole cannot be purchased at that rate of price, and that a surplus undisposed of must remain on hand. To avoid, then, the di-
minution

minution of price that must take place upon that supposition, and to obtain, if possible, the existing price; more supplies will be brought forward, and the greater influx to the market will, of course, reduce the prices. If, on the other hand, the price is under-calculated, it will as soon be found that the demand is so great in proportion to the supply, that, in a short time, there must be a very great scarcity; and that those who keep up their grain, will *then* be enabled greatly to increase their price. These views will lead the dealers to withhold their grain, and to supply the market in less profusion; till the increase of price decreases the consumpt, so as to beget a probability of the alternative before mentioned. Under, or over-calculation of the price, or (what is in effect the same thing) the too liberal or too scanty supply of the market, will thus, of course, redress itself, from the views of the dealers to their own interest. The interest of the dealers and of the public, however seemingly at variance, would thus appear exactly to coincide in the same thing; viz. *that the supplies should be brought forward in that proportion, and (which is in end the same) that the price should be so proportioned to the power of purchasing, as that the existing supply should last through the whole season, without either a deficiency or a remainder.* If, towards the end of the season, the appearance of the succeeding crop affords a certain prospect of plenty, it will then be the interest of the dealers to get off what remains speedily, while a good price is obtainable; and the competition for sale in the market will lower the price. If, on the contrary, the succeeding crop is more deficient than the one before, the certainty of a still higher price, will lead the dealers to be more sparing in their supply of the market: The price will, of course, rise; the consumpt will be diminished; and a part of the present crop will remain, to cover the deficiency of a still more scanty succeeding one. It seems not easily conceivable how these operations of grain-dealers upon the market, can ever be productive of any thing but the advantage of the public, so long as they are directed by their own private interest; a principle, for whose constant operation they may certainly

tainly be trusted, till a more steady principle of action shall be found to exist in human nature.

Men pinched with straits, are, however, unwilling to ascribe them to necessity, because against necessity they know there is no resource. They would therefore fondly wish to attribute them to voluntary causes; against which they can, with more feasibility, utter their complaints; and from which they may flatter themselves to obtain redress, by regulation. Hence, the invention of the imaginary crimes (as they appear to be) of *forestalling, regrating, and monopolizing*; the call upon Government to interfere, by *internal regulation of the market*; and the inept assumption of this power, even by enlightened governments, from the impulse of popular clamour; together with all those destructive outrages so often perpetrated by meal mobs. Had, however, these evil genii, the corn-dealers (who, like phantoms, haunt and disturb the imaginations of so many honest people, in times of dearth) any *interested*, or rather *disinterested* design in the death of the people, they certainly go very awkwardly about their business: Their design might be most readily, and with perfect certainty, effected, if, instead of raising the price, so as to enforce diminution of consumpt, they should bring forward the supply in the same profusion, and reduce the price, so as to communicate, to all, the same power of purchasing, as in years of ordinary plenty. The existing supply, if just equal to a nine months supply of an ordinary year, would then most certainly be consumed in nine months; and absolute irremediable famine would be ensured for the other three.

1st, *Monopoly*. Of all imaginary evils, that of a monopoly of grain seems the least to be dreaded in a free country, or in any country. Stocks, perhaps, may be found, amassed in such a small number of hands as renders combination possible, which may purchase up the whole of an article, existing only in very limited quantity, such as sugar or spiceries; but, in regard to an article of universal consumpt, and raised in quantity to answer an universal, a constant, and a daily consumpt, it is impossible

possible to find stock sufficient, in such a number of hands as are capable of combination, to command any perceptible quantity of that article. With all the advantages for combination possessed by manufacturers, and with all the exclusive privileges which they have generally had the address to procure from every government; was there ever any apprehension entertained of a monopoly of the general clothing of a country? How much less reason, then, is there to apprehend a monopoly of the article of general food; which certainly would require an extent of stock three or four times greater to command it; where those who first raise it, and in whom the property of it is first vested, are, from their dispersed situation, utterly unfit for combination*; and in regard to which, every government (so far from bestowing exclusive privileges) have universally shown an anxiety to prevent an imaginary combination, which, in fact, seems impossible in the nature of the thing? In the anxious situation of a dearth, it is not, however, surprising that the minds of the people should give way to the terror of imaginary evils and imaginary crimes; particularly, since their belief in their existence, receives sanction from statutes, gravely enacted with a view to their prevention or their punishment†. When dearth occurs, the statutory crimes of monopoly and forestalling immediately present themselves to the terrified imagination; the alarm is given, and the cry raised, that the dearth is *artificial*, that the criminals should be punished, and their wicked machinations counteracted. If by *artificial* is meant, *whatever takes place through human conduct, in consequence of forethought*; most undoubtedly, every dearth is *artificial*; being the result of the

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* The impossibility of a monopoly of farms, seems abundantly evident, from the principles which necessarily lead to the circumscription of farms within their proper bounds; already explained in note D.

† Since the repeal of the penal statutes against witchcraft, the belief in it hath ceased:—an horse can now be quietly seen to die of the botts, without having his death imputed to the incantations of an old woman. Were the statutes against forestalling, regrating, and monopoly, repealed, it is presumeable also, that a dearth would quietly be ascribed to the natural cause of scarcity.

conduct of the dealers in grain, upon their calculation of the existing supply. If, however, the foregoing statements and reasonings are just, it will be found, that, so long as the dealers continue to act with a view to their own interest, (which is surely the best security for their conduct that can be wished), their interests, and that of the public, must exactly coincide, *in so proportioning the supply and the price to the power of purchasing, as, that the existing supply may last through the season, without deficiency, and leaving no remainder.* The more extensive the stock, the dealings, and the information of the grain merchants; so, in proportion, will their continued efforts to buy where cheapest, in order to sell where dearest, tend to make the greater plenty of one district contribute to the relief of the greater scarcity of the rest; equalizing, everywhere, the supply and the price.

2. *Forestalling.* The hue and cry, in regard to monopoly of grain, seems to have greatly subsided. What is called the crime of *Forestalling* or *Regrating*, seems to be the crime of the day; and, to judge of it by the newspaper accounts of the exorbitant fines imposed in various instances, it would seem to be considered as a crime of a deep dye. So far as it is possible to collect the meaning affixed to the term *forestalling* or *regrating*, the essence of the crime would seem to consist in the practice of *buying, upon a market day, articles of food of any kind, already upon their road to market, or arrived at the market; with the intention, manifested by the overt act, of selling them over again, with a profit, in that market-place, and upon that same day.* There is surely, however, no crime in simply dealing in victuals, with a view to profit, more than in drink, or clothing, or furniture, or any other species of merchandize. The criminality, if there is any, must originate in the circumstances under which they are bought and sold. It appears difficult, however, to conceive wherein lies the criminality of buying, to sell over again, with a profit, upon the market day, more than upon the day preceding, or upon the road; or in the market-place, more than in an house, or in a field. To attempt to impute criminality from such circumstances, seems about equally consistent with the gravity

gravity and good sense of magistracy, as to attempt attaching witchcraft to an old woman, by pricking her for the devil's mark.

An imperious public necessity may cause an innocent action be construed into a crime; like that of the sentinel, who is shot for involuntary sleeping upon his post: In these cases, however we may regret the innocent sufferer, the necessity of the regulation reconciles us to his fate. But, before we can consider the fines hitherto imposed, as any thing else than oppressive; or the interference in any shape, as any thing else than impertinent; it would be necessary to point out the necessity of construing into a crime, an action, in itself considered, which is neither censurable nor meritorious; to point out, as in the case of the sentinel, the harm that would ensue, from the toleration of a practice indifferent in its own nature.

There are only three interests, to which the practices of the forestaller can bear any conceivable relation, or can in any way affect: That of the forestaller himself; that of the farmer or original producer; and that of the consumer.

In regard to the interest of the forestaller, it is evident that no interest has been, or is taken in it, either by the law, or by the magistrate; it is left entirely to his own discretion, though generally the most in hazard of any of the three.

In regard to the farmer, in no country do the laws, relative to this subject, seem to have originated in any view to his interest; but to have been obtained from another quarter. Every dealer, who sits in a work-shop or behind a counter, within the precincts of a Royal burgh, seems to grudge that the farmer or victual-merchant should obtain any profit from their respective professions; and has the assurance to condemn, in them, the maxims by which his own whole conduct is regulated, of taking all the profit upon his commodity that the market will afford him; unfairly narrowed, too, as is the competition against him in his own market, by the exclusive privileges with which his little corporation is invested; enabling him to reap so much over-proportion of profit upon the drink, or clothing, or furniture of his customers, as leaves them

them less than in due proportion to lay out upon their victuals. In every view of utility, the profession of the farmer or the victual-dealer seems, at least, equally entitled to protection and encouragement, as that of any producer or merchant. Stunned, however, by the incessant clamour with which his ears are continually assailed, and which is so ready to overset the firmest conclusions of reason; the magistrate of a burgh, too, generally considers it as essential to his official character, to set himself in a state of direct hostility against the farmer and victual-dealer. The contagion of such sentiments seems, also, more or less to have infected every legislature; leading to the adoption of the mobbish idea, of forcing every farmer to become also retailer; in the silly conception of thus saving the retailer's profit to the consumer; though, in contradiction to that best established of all political axioms, that, *in proportion to the subdivision of labour and employment, more business is performed, in less time, and in better manner, and at a cheaper rate.*

The interest of the foretaller and farmer being out of the question, and, in fact, never attended to in the discussion; the only other interest that can possibly be affected, is that of the consumer; and the only conceivable manner, in which his interest can be hurt, is, by the enhancing of the price of the commodity.

The consumer may, perhaps, in his great wisdom, conceive, 'that, as the original holder of the commodity did, in fact, sell it to the foretaller at a certain price; it was from thence evident, that said holder *was willing* to have parted with it at that price: that, consequently, if the foretaller had not stepped between, but allowed it to come to market, the original holder *would have sold* it at that price: but, now that the foretaller has paid that price, he *will not* part with it without a profit; which profit, *therefore*, the consumer *must pay*.' This statement certainly contains every shadow of a reason that can be adduced, to substantiate the hurt which can accrue to the consumer. If the fallacy of his argument, however, does not appear from the *italics* in the printing, it will be abundantly evident from the following considerations.

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The price in the market depends, not upon any single interest, or view, or will; but upon the general combination of all the views, interests, and wills, of the whole buyers and sellers *in cumulo*; when (after higgling and mutual explanations of views, with their reasons on both sides of the question, as to the present state and future prospects), the prices settle in a rate conformable to what is generally conceived to be the proportion betwixt the actual or presumable supply to the demand. To this alone, both sellers and buyers refer, in endeavouring to fix their ideas of what the market price should be; and nothing else is by either taken into consideration. If the forestaller has, or thinks he has, a clearer preconception of what will turn out to be the market price, than those upon their way to the market; and finds, upon trial, that they expect less than he imagines the market will afford; in that case he buys: If, on the contrary, he finds that their expectation exceeds his ideas of what the market will afford; he does not buy: well knowing that he can have no expectation of profit from the transaction, but upon the first supposition; as the market price must determine his profit, and not his profit the market price. Had *his will* to obtain profit, the power of regulating the market price, he would buy equally upon either supposition. He pretends not, however, to be possessed of the wishing cap of Fortunatus. Had sellers, indeed, the power of realizing their wishes, bankruptcy would be unheard of among merchants.

The consumer buys in the market at the market price: If the forestaller has given more for commodities upon the road to market, he must be contented to sustain loss; and it would be ridiculously simple in him to think, that the consumer will conceive himself under any obligation to pay him more than market price, to prevent him from sustaining loss, or from going without a profit. It would be an equally simple conception in the consumer, or forestaller-hunter, to imagine, that the farmer (whose conceptions of the market price, while upon his way to market, fell short of what turns out, in fact, the price) should conceive himself as under any obligation to rest satisfied with *what he would then have been willing to have accepted*, when, upon arriving at the market, he finds he can obtain more: If
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he is conceived to be under any obligation to that purpose, he should be put to his oath as to the price he had expected, and be compelled to accept of that price.

The profit or loss, then, from the previous operations betwixt the forestaller and farmer, rest entirely between themselves, according as either has formed the more just preconception of the market price. These operations can, in no shape whatever, affect the consumer, whose price is uniformly the market price*.

The forestaller can hardly expect to obtain profit, by buying in a market, and selling over again in that same market; as, after the market is seen, every one's ideas are more up to the market price. If, indeed, a knowledge of scarcity has recently occurred (from failure of crop, for instance, elsewhere), which is, as yet, only in possession of a few; he may, in that case, buy up with a prospect of profit; if not in that market, at least in a succeeding one, by the time such knowledge shall have become general; when, if his information turns out well-founded, he will obtain profit; and his practice, instead of proving hurtful, will only contribute to the more timely production of that dearth, which alone can insure that diminution of consumption which is necessary to prevent scarcity from ending in famine: If his information turns out ill-founded, he will obtain no profit, but may sustain loss.

Were we to suppose a chartered company, invested with the exclusive privilege of purchasing all the grain and butcher meat of a country, at such a price as they chose to give, and of compelling all the consumers to purchase it from them, at a price fixed by the company: Or rather, to make the supposition bear some faint resemblance of possibility, were a government to assume this privilege over a conquered country, and to enforce it by all the power of the military establishment: In that case, it is at least a possible supposition, that (in order to save warehouse room) the one half of the provisions might be destroyed, and that the price of the remainder might be raised so high, as to force out, in the purchase, the whole substance of

* The market price is that to which every bargain tends, but which none attains: In every market, almost every particular bargain is made a little higher or lower than *the average of the whole*, which is the market price.

of the inhabitants who did not die of want in the *interim*. Here would be, not an *artificial dearth* (which is ever necessary to prevent famine, in real scarcity), but an *artificial scarcity* with a vengeance; though, certainly, it would be a much more easy and less circuitous mode of obtaining the wealth of the inhabitants, at once to murder and to rob them. If one scourging crop were thus taken off a country, it would be idle to expect a second.—It is probable, however, that some monstrous chimæra of this nature haunts the imagination of forestaller-hunters; inspiring terrors, similar to, and equally reasonable, as those of children for hobgoblins in the dark*.

Mr Burke justly observes, in treating of the power of language to excite the passions, that the effect is not produced in consequence of ideas conveyed, but merely through the power of sympathy. When, from infancy, we have been accustomed

* Though the destruction of provisions is a thing not unusual in meal mobs, I have heard of no instance of the destruction of vivres by dealers, which seemed in the smallest degree probable; except in regard to Edinburgh butchers, who, it is said, sometimes bury their meat remaining upon hand after a glutted market, when beginning to grow tainted. 'Tis pity, any thing should be thus destroyed, which can afford sustenance to man: It were better sold, at a low price, to poor people. The fault, however, does not lye with the butcher, but must be ascribed to the interference of regulation. The magistrates are conceived officially bound to inspect the markets, and to take care that no damaged provisions are exposed to sale; a delinquency which they are empowered to correct, by forfeiture of the commodity, and the imposition of fines: To be caught in this mere statutory delinquency, exposes the person to a sort of ignominy, attached to it by rote. The magistrate, upon inspecting the market, condemns, at discretion, the flesh meat which he considers as damaged by taint, or even what he conceives merely to be too lean; and, I am told, sends it to the poor's house. Rather than lose his meat in this sort of ignominious manner, the butcher may be expected to bury it out of the way, so soon as he apprehends risk of its being condemned by the arbitrary power of a magistrate. As nobody, however, can be compelled by the butcher to purchase his meat when it is tainted, or lean: it does not appear, that any harm could ensue from leaving this matter entirely to the discretion of the purchaser. It seems hard, to deprive the poorer classes of the option of having meat of inferior quality, at a low price, rather than no meat at all. Flesh meat, lean from scanty feeding, or too much exercise, is even more wholesome than pampered, stall-fed, fat meat. Even after it hath acquired a considerable taint from keeping, flesh meat seems no way noxious to the constitutions of those whose stomachs can receive

ed to hear certain words always pronounced in the tone of indignation, we are, from sympathy, fired with the same indignation; the word and the passion get associated from habit; so that, when one is presented, the other is excited. This accounts for numberless prejudices of education, and might be illustrated in the powerful effects produced by many words ending in *ian* or *ism*. If we would wish to rise superior to mere prejudice, we must analyze the subject of our prejudice, to discover, by its proper test, whether it is well-founded. I have known a person entertain a most violent antipathy to swine's flesh, though he had never tasted it in his life; and who, of course, could not know, by the proper test, whether he really liked or disliked it. When we hear the cry raised against forestallers, regraters, and monopolizers; instead of allowing ourselves to be hurried away by an instinctive terror and anxiety for their extirpation, we would do wisely to inquire into the nature of the objects of our terror, that we may know whether there is real danger, or whether we ourselves only are panic-struck.

Grain is a property diffused necessarily through so many hands, that, unless an universal combination, such as never did, nor can happen, were to take place, the destruction of any part could only redound to the advantage of those who preserved it, and to the loss of the destroyer.

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ceive it. In country places, at a distance from market, it is well known to be necessary, even in genteel families, to keep flesh meat, for chance of strangers, till it hath often contracted a considerable degree of taint; so that most of it is used in this state, and without any sensible inconvenience. In sheep countries, the herdsmen live very much upon the flesh of sheep, dead of the sickness or iliac passion, the very smell of which is intolerable to those unaccustomed to it; and they are a class of people who are certainly upon a *par* with any class inhabiting great towns, in point of strength, or agility, or soundness of constitution. If such meat can be digested by the aged and infirm in an alms-house, it could surely do no damage to the stronger organs of a street-porter, or other day-labourer. It would be absurd to suppose, that poisonous aliments are knowingly sent to the poor's house, in order to get rid of the pensioners! or, that the butcher is fraudulently made to incur a forfeiture of his meat, that they may be supported at his expence, without charge to the funds. A zeal, without discretion, may, however, betray the best-intentioned into inconsistencies; or rather, an absurd imputation of duty may force men upon absurdities, which they see and lament, but cannot avoid.

Were the laws against these imaginary crimes repealed, the belief in them might cease, as in the case of witchcraft; and the magistrate might be saved much disagreeable embarrassment.—Innovation, however, is dangerous; and it is, perhaps, better that they should die their natural death, by becoming obsolete. Meanwhile, it might probably be expedient to remit the cognizance of all such causes to juries; who, as they judge both of law and fact, might gradually cause the whole to fall into non-execution, in proportion as good sense began to prevail.

3d, *Interference of Government.* The *prospectus annonæ*, or care of the annual supplies, is a duty which every people have imputed to their governments, in the idle conception, that their governors, and not their own industry, can, or ought to provide their bread; an imputation which frequently impels Government to interfere; sometimes, perhaps, in the conviction, though, surely, more often without any conviction, of their ability to effect the purpose.

It might be an easy matter, for the elder, or chieftain, of a tribe of American savages, to take an account of the whole annual crop of maize, raised in common by the labour of the women, and all collected into one space round the Indian town; and to divide the whole in equal proportions among the different families of the tribe. In an extensive, well-cultivated European state, where cultivation goes on, not in the languid manner of a general concern, but under the keen animation of a sense of separate interest, it is impossible any government can either ascertain the extent of the supply, or the proportion to every individual upon a division; or that it can attempt the violent seizure, and arbitrary disposal of private property, without giving a check to industry; the ruinous consequences of which would infinitely more than counterbalance any temporary advantage that might be conceived to result from any such interference. The only proper interference of such governments, in order to insure plenty, is, not by temporary intermeddling, but, by general laws, protecting the cultivator of the soil, and insuring him of reaping the profits of his own industry, both against the oppression of his superiors, and the outrage of popular ferments.

In years of ordinary plenty and cheapness, matters are allowed to go on quietly in their natural course: In dearth, however, clamour rises high; governments are loudly called upon to interfere, and are sometimes forced to interfere, or, at least, to affect a bustling show of interference, merely to prevent popular insurrections; though under conviction, that such interference, instead of doing good, often tends to increase the very evil it was intended to remedy. It would certainly be a matter of much advantage, were the people at large duly apprised of the effects to be expected from the interference of government; that it may neither be impelled, from clamour, into ruinous measures, nor blamed for declining interference, where it might be productive of harm, and could do no good.

As it is not in human power *to create grain*, it is evident, that, in cases of scarcity, neither government, nor the richer classes of the community, can do any thing to alleviate the scarcity, or to procure greater plenty; but, by diminishing their own consumpt of grain, to produce a saving; or by contributing funds for the purpose of importing grain; or enticing adventurers, by a bounty, to import it, at their own risk, from other countries—a measure, which the partial range, to which man's benevolence must be confined, to be adequate to his power, will justify in a nation, though at the expence of other nations; but which will hardly be equally justifiable in the administrators of a burgh, in attempting to relieve the town, at the expence of the provinces; or in the inhabitants of a province, in attempting to interrupt the free circulation of grain for the relief of the town.—Even this interference, the only one that *can really augment the quantity of grain, and really relieve the scarcity*, ought to be gone about with great discretion; lest the very idea of government interference should augment the alarm of scarcity, and, in consequence, lead to miscalculation of the supply, and increase (for a time at least) the dearth*.

In

* In the scarcity of 1795-6, the Parliamentary hue and cry about dearth and scarcity (when, from vulgar conception; or the despicable attempts at popularity,

In the way of internal regulation, Governments may, and do sometimes interfere, in times of scarcity and dearth; though this mode of interference, especially of that kind to which governments are impelled by popular clamour, is always hazardous in the extreme.

In all modes of *internal government interference* with the supplies and the price of the market, there is one principle which can never be departed from, without exposing the people at large to the most imminent danger of perishing through famine, viz. *that the price should be so proportioned to the power of purchasing, as that a rate of consumpt shall be secured, which shall insure the last of the existing supply, till the return of another.* If the price is fixed at an higher rate, the people are pinched more than what is necessary; if fixed at a lower rate, famine must necessarily ensue.

Were governments never to interfere, but from decided views of public utility; in that case, we would often see anxiety discovered to fix a *minimum* price, less than which should never be accepted, under severe penalties, in order to insure that moderate rate of consumpt, which would prevent the crop from being eaten up before the return of another, the consequence of which would be irremediable famine. As, however, no government ever did, in the annals of history, nor ever will interfere, to fix a *minimum* price; it seems pretty evident, that views of public utility never did, nor ever will, suggest the propriety of any interference at all.

The

on the eve of a general election, many speeches were delivered, which might have suited the ringleaders of meal mobs) most certainly led to great miscalculation of the supply; to consequent withholding from market, in a greater proportion than the due one: Of course, the dearth rapidly increased, till Parliament were impelled to entice adventurers to import, at a most extravagant bounty. The dearth, however, proved, in end, to have been so egregiously miscalculated, that it was found, that dearer victual was imported, to compete with cheaper in the home market. The adventurers sustained great loss; and though application was made to Parliament for relief, none was afforded; which, all things considered, was rather a hard measure.

The only interference of Government, of which we have, or shall ever have an account, is, in the fixing of a *maximum* price*.

The fixing of a *maximum* price can only be done (if public good is consulted) to prevent the dearth from being over-calculated. Wherever there is dearth, however, it is over-calculated in the imagination of the people at large. If Government ever is impelled, therefore, to the fixing of a *maximum* price, it may be esteemed certain, that this price will be fixed at a lower rate than the existing one; and (if it were in the power of any Government, which fortunately it is not, perfectly to enforce the regulation) the consequences to be apprehended are obvious.

It may be alleged, that if a *maximum* price were fixed in dearth, even so low as to be so proportioned to the universal power of purchasing, as to allow every one to purchase as much as he could do in an usual year of plenty; that the effect would only be, to place the short allowance, necessary in order to prevent a famine, upon the footing of *option*, instead of that of *necessity*; and that every one, from conviction of the necessity of the measure, would *voluntarily* betake himself to that short allowance, necessary to make the existing supply last till the return of another. Such a scheme would appear, however, perfectly Utopian. Unless every one were supposed to know, what it is impossible for him to know, the proportion of the existing supply to that of an ordinary year, so as to know the proportion of abstinence that fell to his share, in proportion to the deficiency of the existing supply; and unless

* When the French Convention (apparently under the influence of the Paris meal mob in the galleries) established the law of the *maximum*, a famine was considered as the inevitable consequence, by every person of reflection. Luckily for that people, there are measures which the most scrutinizing tyranny cannot carry into full effect.

With all the means of information, and ability of cool investigation, possessed by a British Legislature, no measures of effective internal interference were hazarded in 1795-6: Luckily they were not so overawed.

less the good faith of every one could be depended upon, for his voluntarily practising that measure of self-denial which was necessary, a famine would be the necessary result. How little *optional self-denial* can be depended on, will, it is apprehended, be sufficiently evident to those who have a family of servants that eat in the master's house. It is believed, no master, so circumstanced, ever found his servants willing to be contented with less victuals in an year of scarcity, than in an year of plenty. Such a proposal was probably never made by a master, from the certainty that it would not be listened to*.

That

* Were the practice more prevalent, of giving servants a certain allowance of meal and money in their own houses, in lieu of victuals in the house of the master, the temptation of disposing of the savings, at an high price, would uniformly insure a considerable degree of saving, in an year of scarcity and dearth. Self-interest is an energetic principle, in every situation. In situations of obscurity, where the motives of obtaining credit and celebrity are not presented, it is not to be expected that views of public utility should have such influence. In the scarcity of wheat in 1795-6, it was easier for our Sovereign to bring himself to the self-denial of substituting the meal of barley to the flour of wheat in the Royal household, than to persuade the meanest of his subjects in parish work-houses to follow the example.—In scarcity, the dearth of price places the self-denial of the generality upon the certain security of *necessity*, instead of the precarious one of *option*. Among those, however, who are so rich, as that the dearth does not necessarily enforce a change in their mode of living, short allowance must remain in a great measure *optional*. Sumptuary laws can have here little effect: they cannot be enforced, except at the expence of retaining a spy or exciseman in every house. As they admit, therefore, of no sanction, they amount merely to recommendations. Persons, however, in such situations, are few in number; and as they live less on bread (everywhere the great article of food among the generality) and more upon butcher meat, though their short allowance cannot be enforced by *necessity*, it is of the less consequence, as all their savings of bread could have but an imperceptible effect in producing more plenty to the generality. Inconsiderable, however, as the amount may be, to which such savings could arise, it is certainly the duty of all, in such situations, to practise saving; for, as grain cannot be created, the only thing remaining to be done in scarcity, is to save, that the supply may last out the season. In such conspicuous situations, the credit to be obtained, by setting a good example, will always insure a considerable degree of saving; particularly, for instance, in the pampering of parade horres, where their greatest grain corrupts lies.

That a Legislature may fix a *maximum* price in such a manner as to incur no risk of producing an absolute famine in an year of scarcity, it would be indispensably necessary that it should be perfectly apprised of three things, neither of which can probably be ascertained by any Legislature in a manner in the least degree approaching to precision: *First*, The rate of consumption of grain in an year of ordinary plenty: *Secondly*, The proportion which the existing crop bears to that of an year of ordinary plenty: *Thirdly*, The extent of the power of purchasing, in possession of the whole consumers of grain. A *maximum* cannot, with any degree of safety, be fixed, unless founded upon a perfect knowledge of all these *data*; so that the price may proportion the power of purchasing so exactly to the existing supply, as that a rate of consumption may be ensured, which shall enable it to last till the return of another.

The British Legislature, in 1795-6, however strongly impelled, and notwithstanding of its superior means and ability of information, durst not hazard a measure so evidently fraught with the most imminent danger.

If matters are left to their ordinary course, the interest of dealers in grain would appear evidently to have the effect of producing, with certainty, and without danger or violence, precisely what any enlightened Legislature would propose by internal interference of regulation, viz. *the fixing of the price at such a rate, as shall so proportion the power of purchasing to the existing supply, that it shall last out the season without remainder or deficiency* *.

In

* In the Anti-Jacobin Review, for February 1801, it is observed—‘that a farmer is a distinct being from every other species of trader, who have all an *absolute property* in the articles in which they deal; while he can only have a *qualified and conditional property* in the fruits of the earth, which are necessary to the existence of man, and were expressly given by the Creator for his support.’ Then follows a *ductio ad absurdum*, if it was allowed that his right was a complete property—as, that he might starve his customers by refusing to sell, or by destroying his commodity, &c. &c.

I would

In regard to individual patriotic interference, for the alleviation of scarcity, it has been already observed, that, as grain cannot possibly be created, the only thing remaining to make the supply suffice, is to save it, or to import it from other countries. In regard to interference, as to the power of purchasing; either by distribution of money to increase the power; or by reducing the prices, so as to render the same money-power adequate to a greater extent of purchase; it may be observed, that this ought always to be attempted by the rich, in regard to those, who, from age, from sickness and infirmity, or from families more than ordinarily numerous, are unable to compete in the scramble of the market with those who are not weighed down by such incumbrances: To increase indiscriminately the money-power of purchasing to a few in a particular district, would only give relief to those few, at the expense of the generality. An universal distribution of money, would only bring more money into the grain market; but, as it could not augment the supply of grain, the effect of the competition

I would just observe, that, in similar subjects, it is the general rule that ought to be inculcated;—the general tendency is to create exceptions, even long before we have arrived at that condition of *necessity, which hath no law*. These gentlemen, very properly, inculcate the *ius divinum* of Monarchy, with the general propriety of passive obedience and non-resistance; and they would certainly reprobate the conduct of such as should manifest a propensity to dwell upon the exceptions. Property in the subject to which industry is attached, is the only proper excitement to industry, in agriculture, as in every thing beside.

I take the opportunity of stating, here, a fact relative to the operations of the foretaller and producer, *resting betwixt themselves*, as stated pages 365, 366. In consequence of (what I would conceive) an absurd decision, through which the wholesale trade in hay had been condemned under the head of forestalling; a farmer near Edinburgh refused to deliver his hay to his merchant who had purchased it, affecting a scruple of conscience, in encouraging the crime of forestalling. The hay, it must be observed, had risen in price from 1s. 6d. to 22d. from the date of the sale till the term of delivery. The merchant, intimidated by the recent decision, was afraid to have recourse to legal modes of enforcing the bargain. What was the consequence? The horrid guilt of forestalling was, to be sure, not incurred; but the farmer himself, instead of his merchant, sold the hay at 22d.

competition would only be, to increase its money-price; but the quantity which each person could carry home, would be exactly what it was before. Such a measure would, indeed, in some degree, counteract this direct effect; for, as such distribution must be at the expence, and tend to the diminution, of the funds destined to support useful labour, the demand for such labour must slacken in proportion; and, of course, the money-power of purchasing must be diminished in the one way, in the same ratio in which it is increased in the other.

This note was written immediately after the dearth 1795-6. I thought it needless to alter it, in alluding to more recent examples; as the general principles, laid down, are of universal application.

N. B.—In explaining the mode in which the market of grain is affected, I have always taken notice, merely, of the operations of the merchant. The effect is, however, equally the joint result of the competition of purchasers: To have continually noticed both, would have led to unfufferable tediousness—though, assuredly, a merchant cannot sell, without finding others willing to purchase.

APPENDIX, N^o. I.

ACCOUNT of WHIM, the Seat of SIR JAMES MONTGOMERY, Bart. of Stanhope, Late Lord Chief Baron of his Majesty's Court of Exchequer: With some OBSERVATIONS upon the Culture of FLOW-MOSS, and of PLOUGHABLE MOSS, from Information communicated by him.

THE lands of Whim were purchased about the year 1730, whilst in a state of nature, without cultivation or inhabitant, other than perhaps a single herdsman, by the Earl of Hlay, afterwards Duke of Argyle; who built a small house, with offices (enlarged, since, by the present proprietor), at the east end of a large *flow-moss*, consisting of about an hundred acres of extent*; the depth of the moss soil, before it had subsided in consequence of draining, being from twelve to twenty feet, and in several places more. The house stands nearly upon a level with the top of the hill of *Arthur's Seat*, in the neighbourhood of Edinburgh. The object, it is said, which the Earl had chiefly in view, in the choice of this situation, was, the cultivation and improvement of the *flow-moss*; and the amusement which he promised himself, in displaying

* Moss soil, which hath formed itself upon a flat, or in a hollow, is generally the most deep: from the almost total stagnation of the water, it is kept perpetually in a state of semi-fluidity, and remains level in the surface, like any fluid substance. Hence, the designation of *flow-moss*, or fluid moss.

playing the triumph of the creative power of art, in new-modelling the nature of a subject seemingly so untoward and unpromising: Hence the name, by which he designed his place, *The Whim*.

Till his death in 1761, he kept a great number of workmen continually employed in draining, planting, and otherwise improving: Even after he became Duke of Argyle, he was, annually, in use of spending several weeks at the Whim, in going and returning betwixt London and Inveraray.

Great expence was incurred by the Duke, in originally cutting the main drains through the mofs soil, down to the till-bottom, for a passage to the waters collected in the lesser intersecting drains; as, in most places, from the great depth of the mofs soil, it was necessary to use a wooden stage, or scaffolding, upon which the mofs was thrown from the bottom of the drain, and from thence to the surface. As the mofs, from this drain, was always spread upon its sides, the weight of it caused the sides to crumble down, and fall into the drain, each Winter, in much greater quantity than would otherwise have happened: So that every succeeding Winter created a necessity for a repetition of the same laborious and expensive work, through the ensuing Summer.

The Duke's plantations upon the dry land, to the south and east, have succeeded middling well; they have, in general, failed upon the flow-mofs, excepting upon that part of it, which lies in the immediate vicinity of the house, where the mofs was effectually drained, and cultivated to a considerable depth, previous to planting. Trees of different kinds had been planted, in stripes, through the flow-mofs, along the sides of the main drains: These have not, however, succeeded, excepting upon those places where the original soil (or till below the mofs) had been thrown up from the bottom of the drains, and been deposited, to a considerable thickness, upon the mofs surface; or where the mofs soil had, in its natural state, been of a more solid consistence; in which state it is found, when lying above banks, or knolls, which had ex-
isted

lifted in the subjacent *original soil*, previous to the formation of the superincumbent mofs soil *.

The present proprietor has greatly reduced the expence of forming, and keeping in repair, the main drains through the flow-mofs, by working at them only in the Summer season, during the continuance of rainy weather; when the increased quantity of water, from the side cuts, occasions a considerable current in the main drains; of which advantage is taken, in flooding away the mofs from the bottom of the drain, and thus saving the expence of throwing it out to the surface, by the help of scaffolding: An operation the more easily executed, as the soil of mofs, being of nearly equal specific gravity with water, is easily floated in a very inconsiderable current. The trees he has planted upon the flow-mofs appear to thrive; care having always been taken to drain the land, by side-drains communicating with the main ones; and to meliorate the soil, by repeated culture of potato crops in lazy-beds, with lime, dung, or ashes, before planting the trees.

The

* In cutting the main drains entirely through the mofs soil to its bottom, it is ascertained, that the original surface of the ground (now covered by the flow-mofs) is unequal—rising, in different places, into knolls or banks. It seems probable, that the flow-mofs soil (consisting of decayed vegetable substances) had originated in the pools of stagnant water, lodged in the hollows betwixt these knolls or banks; from the successive growth and decay of their aquatic productions, aided, too, in part, by the accumulation of fallen leaves and branches from the trees or shrubs which may be supposed to have grown upon the more elevated and dry parts of the original soil. As the mofs soil continued to accumulate from these causes, it would gradually swell over the risings in the original soil; chilling the roots of the trees and shrubs, with which these risings might be covered, and at last killing them; when, in course of decay, or by the force of the wind, they would fall down, broken over or torn up by the roots, and be gradually smothered up, and smoothed over by the gradually increasing and semi-fluid mofs soil. Trees are, accordingly, found under the flow-mofs, lying along, with the torn-up roots attached to them; or broken over, with the root and stump still standing in the subsoil. Previous to draining, flow-mofs produces only those aquatics, called provincially *fog*, which are of no use as pasture: When somewhat drained, heath springs up spontaneously.

The Duke's plantations (originally extensive) have been improved and enlarged, since the property came into possession of the Lord Chief Baron; and he has, also, greatly enlarged the house; adding a court of offices, upon a large scale, and ornamented in front; extending also the lawn.—The place has, upon the whole, an air of magnificence.

In the pleasure grounds, there are several artificial pieces of water. East of the house (where the soil is dry, and covered with sweet grasses), the surface is agreeably diversified by gentle swells, tufted with trees. A wild wilderness walk, through a small wood, lands you upon the banks of an artificial lake, with islands, covering an extent of six or seven acres of surface.

What chiefly strikes the visitor at Whim, is the strong marked contrast betwixt the improvements of human art, and nature in her wildest form, here found in immediate contact: Your ears are, at once, saluted with the warblings of the blackbird and thrush, from the plantations; and the wild notes of the plover, the curlew, the grouse, and other moss birds, from the flow-moss.

Besides the improvement upon the flow-moss, by wood plantations (which effectually shut out its haggard appearance from the house and the approaches), it has also received a surface improvement, converting it into grass pasture, to the extent of a considerable number of acres, in the immediate vicinity of the place; and that, chiefly, by the present proprietor.

The first thing necessary to this species of culture, is the formation of roads of communication to the places intended to be cultivated, for the conveyance of manure, &c.

The road is formed by a ditch, of no great depth upon each of its sides, to convey the water to some of the main drains; the stuff from the ditches, forming the plane of the road into a convex shape; so that water may descend from the middle of it, to the ditches on each side: Then, in winter frosts, (when
the

the flow will bear the weight of carriages), binding materials are laid upon the road, and covered with gravel. The land is now ready to receive its culture, on both sides of the road—though at no great distance from it on each side, from the difficulty of transporting manure from the carriages, over a soil so deep, and of such soft consistence.

The mode of cultivating this flow-moss soil, which Sir James (after repeated experience) has found to be the most successful, and, at same time, the most economical, is the following :

The main drains being made effectual for discharging the water (as already described), the portion intended for cultivation, is surrounded and properly intersected by open drains, of perhaps 3 feet in depth, communicating with the main ones : it is then divided into ridges of 20 feet in breadth, by still more shallow drains of from 12 to 18 inches in depth, communicating with those of 3 feet in depth : Ten feet in breadth (all along the middle of the 20 feet broad ridge) then receives the following surface preparation. All the little prominences, from little hillocks of bog, &c. are pared off, and thrown into the hollows ; and the soil, from the two last mentioned kinds of drains, is also spread over it, so as to make its surface level : A good coat of lime is then spread above all. If this operation can be effected early in Summer, so much the better—that the surface soil, with the roots of the moss plants, may have time to rot and digest with the lime, aided by the fermentation occasioned by the Summer's heat ; and may also receive the benefit of the Winter's frost. In Spring, the 10 feet in the middle of the ridge, which has been thus prepared, is covered with dung ; when potatoes are planted upon the dung, and are covered up (in the lazy-bed fashion) from the remaining 5 feet on each side ; a fresh covering being, from thence also, given, if necessary, to earth up the stems of the potatoes during their growth. When this *first* crop of potatoes is raised, a sufficiency is left in the beds, as seed for the ensuing year's crop ; and immediately the 10 feet ridge or bed, is made up anew, with a fresh covering of raw moss

mofs from the 5 feet on each of its sides ; care being taken to clear the small drains, or to deepen them a little, if needed ; it being also highly proper to add a fresh liming to the raw mofs which has been laid upon the bed. In raising this *second* crop of potatoes, the 10 feet broad bed is spread out upon each of the five-foot sides whence the raw mofs had been thrown up, so as to form a ridge of 20 feet, which must be kept rounded in the middle. The ensuing Spring, it may be cropped with oats, and laid down with grafs seeds ; or, if it is judged proper to take two crops of oats, it is dug over, immediately after the separation of the first crop of oats.

Stable-loft grafs feeds, with a mixture of white clover, are apprehended to be the best suited to this species of soil.

Dung, lime, the ashes of mofs, either burnt with an open or smothered fire, seem all of great efficacy in rotting and digesting the vegetable matter of mofs soil.

Flow-mofs, in its natural, undrained, and undigested state, remains dilated with water, like a wetted sponge : when properly drained and digested by culture, its dimensions contract in a very great proportion. His Lordship is of opinion, that every yard in depth of his flow-mofs might, by these means, be consolidated into perhaps one inch, in depth, of real made mould.

It would appear, then, physically possible, though by no means advisedly practicable, by a continued repetition of the above mentioned culture, (deepening always the drain as the mofs soil subsided), to reduce, at length, the mofs soil of our deepest flows, to a soil of very moderate thickness lying upon the subsoil*.

In enlarging his lawn, the Lord Chief Baron found it necessary to remove the Duke's gardens, which were too near to the house ; and he adventured to pitch upon a spot for that purpose

* Sir James's mode of culture, of which this account was drawn up in 1796, seems to correspond, in principle, with that lately fallen upon in Ayrshire.

purpose (otherwise lying the most convenient) upon the eastern extremity of the flow-mofs already mentioned. He was thus, in some measure, necessitated to attempt a culture of flow-mofs, that should reduce it to a garden mould. About 8 Scots acres are enclosed, by a wall of stone and lime, from 9 to 10 feet in height; it having been, previously, necessary to cut a trench or lane through the mofs (which, on the west side, was from 8 to 10 feet deep), down to the till bottom, of sufficient width to admit of cart access for the materials of building, as well as to obtain a firm foundation for the wall.

A contrivance, in the original formation of the wall, saves, in a good measure, the expence, and prevents the damage to the wall, from the repeated nailing up of the fruit trees. Slates are built into it, at regular distances, with one end projecting about five or six inches from it: these ends are perforated, so as to admit rods, of a finger's thickness, for supporting the branches.

The soil of the garden hath been made in the following manner:

Fish ponds have been dug in different places, so situated that every part of the garden may be drained into one or other of them, with proper outlets for discharging the surplus water, when it rises above a certain level. The mofs soil is carted away, or part of it is prepared and burnt, till it is taken off to within a foot or eighteen inches of the subsoil; which last is of various qualities, though generally inclined to clay; when the ashes from the burnt mofs, with lime and dung, are spread upon the mofs soil left remaining. The whole of the left soil, with the manure upon it, and as much of the subsoil as can be turned up by the plough, are then well mixed and incorporated, by repeated ploughings (in the course of cropping with turnip or potato) till the soil is perfectly made so deep as the plough can reach.

Subsequent to this plough culture, the land is trenched by the spade, so as to double the staple of the soil. The made soil is, by this process, placed undermost; whilst an equal quantity of unmade subsoil, from the bottom of the trenches,

is laid above it, to be afterwards made in its turn. Care is taken, in forming the trenches, to keep the subfoil (left untouched by the spade) in such a declivity, that the water, sinking through the cultivated foil, may have a clear descent, under it, upon the subfoil. A covered drain of loose stones is also formed, all along the lower side of the declining subfoil, into which this water falls, and by which it is conveyed into one of the ponds. The surface is also formed, at same time, to a slope corresponding to that given to the subjacent subfoil; that so there may, in every shape, be a proper descent for the water into the covered drain, whether it runs upon the surface, or sinks through the made foil to the till bottom.

In the trenching process, each particular break, into which the garden is divided, is thus formed to one equal slope, both in upper surface and subfoil: the different kinds of soils, where they vary in quality in the same field, are also sometimes now mixed together. The new foil, turned up in the trenching, is treated with raw mofs, mofs ashes, lime and dung; till, by tillage with fallow crops, it is also made: so that, at length, a foil is formed of from eighteen inches to two feet in depth, upon the whole; producing garden stuffs, and small fruits, in abundance.

The garden is furnished with a viney and a peach-house, the produce of which have hitherto been very great.

As one encouragement to the cultivation of Flow-Mosses, and inhabitation of their vicinity, it may not be improper to observe, that few families in the kingdom have enjoyed more uninterrupted health than Sir James's. So salubrious is the air of Whim, that (though very many working people, from all quarters of the country, have been constantly employed in the improvements there, for now upwards of sixty-five years) I am assured by Sir James, that the ague is a disease unknown. —(See article *Climate*, in the Report.)

Besides the flow-mofs, his Lordship has had long experience in the cultivation of *moss soil cultivateable by the plough*; as observed, under the article *Soil*, in the Report.

This

This kind of mofs soil is generally found upon the declivities of hills. Though, from this situation, it is more difficult to account for its original formation, it is, nevertheless, a soil, in every agricultural view, of the same composition as flow-mofs, only more consolidated, from the more ready passage of the water from it: Like flow-mofs, however, it absorbs, retains, and is dilated by water, as a sponge, while it remains in its natural state, unrotted and undigested.

This soil is, very commonly, more thin at the top of the declivity, deeper about the middle of the descent, (from a dip that there often takes place in the subsoil), and again more shallow at the bottom; extending, at deepest, frequently to the depth of near four feet.

His Lordship distinguishes this soil, as it has occurred to him in practice, into two kinds; as characterized by their natural appearance, previous to culture, indicative of their different states, as to dryness, and consequent solidity. The one kind is covered with bent, and other green herbage, being generally full of springs; the other, more dry and solid, is covered with heath.

As lime is almost the only attainable manure, for rotting such soils, and converting the vegetable matter of which they are composed into mould; and as lime is found to have little effect upon land soaked with wet; it would appear necessary to begin the process of culture, in the *first* of these soils, by draining with open ditches and covered drains. The potato culture, in lazy-beds, might be used, as far as can be accomplished, in the same manner as in flow-mofs, *mutatis mutandis*; which, at the same time, effects both purposes of draining and of digesting the soil. As this expensive culture, however, cannot, with profit, be carried on upon a large scale, unless in the neighbourhood of towns, (where the inhabitants may be induced to undertake the culture, for their own profit, and at their own risk; or where a sufficiency of hands may be procured, for hire; and, at the same time, a ready market for the produce, without long carriage, the expence of which its value cannot bear), it would seem necessary, in other situations,

to depend upon the less expenfive culture of the plough, wherever the cultivation is attempted upon a large scale. If the land cannot be laid fufficiently dry, for liming, by drains, without incurring a disproportionate expence, a judicious management of the plough may be made to come in aid of draining. It should be broken up, as foon as it is rendered dry enough to be capable of being ploughed. When, after it has lain a fufficient time for the thorough rotting of the fward, it may, by two or three furrows, in the drought of Summer, be formed into convex ridges, the lime may be then applied; and, in courfe of culture, as the foil digests and consolidates, it will be found more and more eafy to rid it of fuperfluous moisture, from the convexity of the ridges, than while it remained in the fpongy ftate, of raw undigested mofs.

In regard to the *fecond* more dry and folid fpecies of mofs foil, it would feem proper to apply the lime upon the furface; and to allow the field to lye two years in that ftate, previous to ploughing; when it will give an immediate return, in crops, for the culture.

By liming, ploughing, and repeated liming, or otherwife manuring of the frefh mofs foil, as it is turned up (taking crops, to pay for the expence, betwixt the repeated fallowings), the mofs is gradually digested and compacted; when, after the fub-foil (generally of a clay confiftence) is reached by the plough, and properly mixed, and made to a proper depth of ftaple, this foil is formed into all that perfection of which it is fufceptible. It may thenceforth be treated, in the routine of farming, with the dung bred upon the farm as manure, or with compoft of mofs and lime, &c.

All mofs foils feem to poffefs a ftrong vegetative power, in the produktion of grafies, the blade of grains, and the ftems of plants cultivated for the root: They fhew themfelves inferior (in their high fituations in this county, and in our backward climate) in carrying on their produktions to maturity. Probably, in lower fituations, and more favourable climates, they might prove the moft productive of all foils. Mofs varies

in

in quality, in our climate; the most solid being the most fertile, and *vice versa*. Its qualities may probably be also susceptible of great variations, from difference of climate.

One comparative advantage is possessed by the generality of ploughable moss soils, in this county—that, from their high elevation, they are little liable to be affected by the Harvest frosts, noticed in the Report, article *Climate*.

Upon the whole, when the expence of cultivation is compared to the return of profit, it would appear, that the cultivation of *flow-moss*, in this county, is an undertaking unsuitable to a farmer, upon any length of lease; unsuitable even to a proprietor, except with the indispensable view of hiding a nuisance in a policy—unless, indeed, a gentleman of fortune (instead of spending his income in those enjoyments suited to his rank, which perish in the use) should choose to employ what he saves from these, in thus establishing a permanent value, which may remain, as his mark behind him, when he takes leave of this world. As to *ploughable moss soils*, their culture may be undertaken, with great propriety, by the landholder, with the probable prospect of being compensated, in the return, for the expence of outlay: Their culture could scarcely suit a farmer, except upon a lease of considerable endurance, or in the near vicinity of lime.

APPENDIX, N^o. II.

ESSAY on the DISEASES of SHEEP: Drawn up from Communications furnished by Dr GILLESPIE, Physician in Edinburgh; together with Hints by Dr COVENTRY, Professor of Agriculture in the University. With Notes, suggested from Observations in Tweeddale, &c.

IT is supposed by those who have best access to information on the subject, that the island of Great Britain contains about thirty millions of sheep; and that of these, from three to four millions annually die of disease. Were we to average the large sheep of England, with those of less value in Scotland, the annual loss, from this cause, would not be less than from two to three millions Sterling: A loss which is certainly of very serious concern to the nation at large, as well as to individuals. The mortality of sheep, by disease, is more than double that of the human race—if we abstract, from the latter, the waste occasioned by wars, and by the accidents incident to commerce and navigation. It must therefore appear to be an object of great national importance, to investigate the means of preventing, or curing, the diseases to which sheep are exposed.

In the following Essay, we do not pretend to offer a perfect treatise upon the subject. All we aim at, is to give a short catalogue of the various diseases, and to suggest, under each article, the most obvious means either of prevention, or of cure. On a subject which has never been scientifically investigated,

investigated, mistakes are unavoidable; and these we leave to be corrected by the candour of the reader. Most authors who have treated of the diseases of brute animals, have stuffed their books with a long series of nostrums and prescriptions, where the ingredients are excessively complex, and which either do not mix, or destroy each other's effect. We shall endeavour to avoid this error; and leave all doubtful cases to future investigation.

Some diseases are peculiar to lambs, and others to sheep at a more advanced period of life.

Lambs are subject to

I. *Diarrhœa, or Looseness.*

THIS disorder is commonly called, by the shepherds, *pinning*; because, when the purging has advanced a certain length, a glutinous matter flows from the anus, which fastens down the tail to the hips, and prevents any farther passage. When shepherds observe this, they commonly seize the lamb, and having washed and disengaged the tail, they rub the parts with the earth of a mole-hill, or other powdery matter, to prevent the tail from sticking in future. Hogs lard, or sweet oil, would answer much better for this purpose. The disease is caused by wet and cold in Spring, together with the ewes eating too greedily of soft moist grass. Removing them to heathy, or poorer pastures, where atringent or aromatic plants abound, prevents, or cures the disorder*.

II. *Cholic,*

* Among lambs, fed with their dams, upon the rich improved pasture of Lothian parks, *pinning* never occurs; whence, it is probable that it originates from milk concocted from poorer pasture, which gives more curd than cream to the milk, rendering the excrements of the lamb more viscid. When the mothers have little milk, the lambs are very rarely *pinned*. *Pinning* is therefore considered as a favourable symptom of the lamb's being well nursed. It is not considered as a *disease*, in Tweeddale; though, if not redressed, it would be productive of disease. It is considered as an *accident* to be guarded against; and which, like other accidents to which sheep are liable, requires the shepherd to be constantly walking through his flock. No Tweeddale farmer would, on this account, remove his ewes and lambs to poorer pasture, where the lambs would be worse nursed; as he knows,

II. *Cholic, or Bursting.*

THIS disease is incident to lambs, from surfeiting themselves with an excess of milk. Shepherds call the disease, *bursting*; because the milk, apparently, ferments in the stomach; and, by the disengagement of gases, the intestines are burst. It seems perfectly analogous to the cholic in cows, arising from an excessive feed of red clover in a wet state. The ewes acquire this fatal excess of milk, by feeding too freely upon soft succulent grass in Spring. The evil may be prevented or cured, by removing them, for some time, to a poorer pasture.

III.—*Vermin.*

There are three species of insects which are very hurtful to sheep. 1. The *sheep-fly*, which abounds chiefly in the southern parts of the island, and is most troublesome to lambs. Smearing with rancid oil of any kind, seems the most effectual remedy against its attacks. 2. Maggots, the *æstrum ovis*. These are flies in their chrysolite state, and arise from eggs which flies have deposited, probably in some small boil, or diseased part of the animal's skin. They eat into the parts where they are

knows, that if the *pinned* lamb is timeously noticed, and relieved by pulling up the tail, all danger is removed.

Falling awald, is another *accident* which must, in like manner, be guarded against. When ewes heavy with lamb, or sheep that are fat, or even merely full fleeced, fall, or lye down upon their backs, in a hollow, or even upon flat ground, they will often lye in this position, if not disturbed, or set upon their legs, till (in consequence of the swelling of the belly, which speedily takes place, if the weather is hot, the belly full, and the position be with the head down hill) death ensues: If not raised, they soon become incapable of raising themselves, and will often die in the space of half an hour; the contents of the swelled abdomen probably obstructing the motion of the lungs, or the brain being apoplectically compressed by the over-distension or rupture of the blood-vessels of the head. The fell, ever-watchful, and far-seeing raven, is always ready to attack them in this helpless situation; tearing out, in a few moments, both their eyes and their tongue, even before they are dead. When set on their legs before the belly has swoln very much, no harm ensues.

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are fastened, produce ulcers, teaze, and at last destroy the life of the animal. The parts infested should be clipped bare, and washed repeatedly with black soap and warm water. Lastly, the parts may be covered over with the common smearing ointment. If this does not operate a perfect cure, recourse may be had to the means just now to be mentioned. 3. Ticks, or keds, the *hypobosca ovina*. The smearing ointment generally prevents, or kills this insect. But if this should not happen, or if the sheep are not smeared, insects of every kind may be effectually killed, by slightly rubbing the parts affected with mercurial ointment, composed of three ounces of hogs lard, rubbed up with half a dram of finely-powdered corrosive sublimate. To this ointment, may be added a little of the spirit of turpentine. Coal-oil is powerfully destructive to insects of every kind; but whether it may not prove injurious to the health or fleece of a sheep, has not yet been ascertained by experiment. A decoction or distillation from the gall-plant, which abounds in many mosses and muirs, is known to be very fatal to insects of every kind; and a sheep may be safely washed with this juice. The juice of tobacco is also much recommended as a poison for those insects which infest sheep.

The two last species of insects are chiefly hurtful to sheep of a year old, or more; and the diseases which follow, are chiefly confined to sheep of this description.

IV.—*Scab, or Itch.*

This disease is incident to sheep in some particular pastures, situations, and seasons, more than to others. The predisposing cause, seems to be a relaxed habit of body, produced by poverty, or leanness: though some sheep are subject to it that are fat, and otherwise in good condition. The disease seldom seems to originate with such sheep, but to be conveyed to them by infection. Sheep that are regularly tarred, or smeared, we believe, are seldom infested with this disease. If the disease be partial, perhaps the best remedy would be, to clip the affected parts as bare as possible, and rub them occasionally with

with the common smearing ointment, to which may be added a little Venice turpentine. They should also be washed, once or twice a week, with black soap and water. But if this prove ineffectual, or if the disease has gone to a great extremity, the animal should first be washed as clean as possible, in a pond or rill of water, to purge away all the accumulated virus, or infecting matter, from the wool. A little black soap may be of great use in washing. Then the whole body may be smeared with juice of tobacco; and, after the animal becomes dry, may be rubbed with butter mixed with powdered brimstone:—or brimstone, mixed with the smearing ointment, would answer better. A little of the sulphur may, meanwhile, be thrown down its throat. If this treatment, being twice or thrice repeated, after an interval of several days, should prove ineffectual, recourse must be had to the mercurial ointment formerly described, composed of three ounces of hogs lard, well rubbed in a mortar with half a drachm of finely-powdered corrosive sublimate:—or the same proportion of corrosive sublimate, well mixed with three ounces of the common smearing ointment, will answer equally well. The animal being smeared with this ointment, will soon be effectually cured. Meanwhile, the diseased animal should be invigorated, by being put upon substantial food *.

V.

* John Loch Esq. of Rathan, observes, that it would be proper to add to this account of the scab, that the matter discharged, mixing with the wool, and drying, forms a hard, impenetrable crust, which he has observed of half an inch in thickness; that it is vain to think of curing it by any external application, till this is removed; and that you might as well attempt to cure a man of the itch, by rubbing butter and brimstone upon his coat, instead of his naked skin. That the scurf, thus formed, must be removed, by soaking and washing it with warm lime-water and soap, and scraping it clean to the quick with a blunt knife. It may then be successfully cured by the ointment mentioned in this Essay; or (which is a more cleanly and easier-formed remedy) by dissolving half a drachm of the corrosive sublimate of mercury in a chopin bottle of whisky and water, and washing the parts repeatedly with the solution, which he has always found effectual, upon two or three applications.

Except

V.—*Braxy, or Sickness.*

This disease is of an inflammatory nature; and there are three species of it, which are very different from each other. These are,

1. Inflammation of the bowels, commonly called dry-braxy. This disease is most fatal to young and robust sheep, about six or seven months old, called, in many parts of the island, *hogs*. It is more destructive upon some farms, than others; and, even upon these, in one season more than another. In a *hog-fence*, or pasture, capable of keeping thirty score of hogs, there is, some years, a loss of from three to four score. This is a very serious matter, as each of these would sell, in the Spring, or beginning of Summer, for half a guinea, or eleven shillings. This disease begins at those times when inflamma-

tory

Except the *breakbaru*, or dysentery, (Article VIII. of this Essay), the scab is the only disease from which communication by infection is dreaded in Tweeddale; and here, the danger of general infection of the whole flock is greatly to be feared. It seems not a very deadly disease; but, from the constant disquietude in which it keeps the animal, from the perpetual itching, it effectually prevents its fattening, besides making it lose its wool. When it has thoroughly pervaded a flock, it is very difficultly eradicated. The ground itself becomes infected; and it communicates the infection even to a sound flock brought upon it. Every broken piece of ground upon the hill sides, presenting a perpendicular or overhanging face; against which the infected animals can rub their backs or sides, becomes charged with the infecting matter, which readily communicates the disease to the sound sheep, who delight also in rubbing themselves. Besides curing the infected animals, care should also be taken to beat down the infected surface of these rubbing places, else the animal is only cured to be infected anew. If the ground abounds with projecting rocks, the surfaces against which the sheep rub themselves, should be carefully washed. After all, the safest course is to sell off the infected flock to the butcher, and replenish with black cattle for a season; when, if the infecting matter consists of animalcules, as is supposed of the human itch, a Winter's frost would probably destroy them.

A sort of itch, though seemingly noway inveterate, almost always attacks sheep, when first set to feed upon turnips. It is easily cured, by immediately anointing the infected parts with a liquor composed of turpentine, with decoction of tobacco, and ashes of broom, being that commonly used in this county.

tory disorders are most apt to prevail, in the months of October and November, and is produced by the common causes of inflammation, cold, exertion, external injury, &c. During these months, slight frosts set in; and the ground, in the morning, is often covered with hoar frost, or what is called, in some parts of Scotland, *rhime*. It is probable, that eating grafs covered with hoar frost, may be one cause of the disorder. If so, moving the animals about, and preventing them from eating, until the frost is melted by the sun, may tend to prevent the disease.

This disease runs its course very rapidly. When the shepherd leaves his flock at night upon their layers, he sometimes observes a hog look dull, loitering behind, and restless; sometimes lying down, and suddenly getting up again: and, in the morning, he will often find it dead, or nearly so. At other times, he will discover no apparent ailment among his flock; and, in the morning, he may find one or two dead, or dying. From this it appears, that the disease is very acute, and of the inflammatory kind.

This is farther evinced by the appearances after death, when the carcases are opened. Their bellies are excessively swelled, and distended with a putrid gas: the whole intestines being red and inflamed, gangrenous, and in some degree mortified. This putrid taint seems to be communicated to the whole carcase, as all the muscular parts, and fat, smell strongly of corruption. The hogs that die of this disease, are frequently fat and in good order; which shews that the disorder is of short duration*.

We

* John Lock Esq. of Rachan, observes, in general, in regard to the sheep, that it is an animal of a very costive habit, discharges little urine, and that so acrid, as to burn up grafs like a solution of volatile alkali; it drinks little, and perspires much of a gleet or greasy nature, as is perhaps the case with all fur-bearing animals: Hence, all its internal diseases are highly inflammatory, and run rapidly into a state of putrescence, proving quickly mortal: Hence, its natural œconomy is easily disturbed by wet seasons, whilst it gets nothing to eat but wet grafs; its body, meanwhile, being covered with its wool, drenched like a wet sponge.

The

We have already mentioned the eating of grafs, which is covered with hoar frost, as a very probable immediate cause of this disorder.—But is there any predisposing cause?

In answer to this question, we shall adduce a fact, which is well authenticated.—Many parts of the Western Highlands of Scotland had been for ages occupied by horses and horned cattle. At the introduction of sheep into those districts, the best grafs was that which had sprung from the tath and excrements of these animals. During many years after these districts were converted into sheep farms, braxy remained unknown. It crept in at last, and the severity of the disease was long, in proportion to the length of time the pastures had been occupied by sheep.

From this we would infer, that pasturing upon their own tath is a predisposing cause of braxy among sheep; and that a frequent alternation of the species of stock, upon every sheep pasture, might serve to prevent the evil. This idea corresponds with the general laws of the Supreme Being, who certainly never intended, that this earth should be monopolized by any particular species of animals; but has so ordered matters, that the happiness of individuals shall result from the happiness of the whole family of animated beings.

Hence, it would appear a beneficial practice in store farmers, in place of one hog's fence, to keep two or more enclosures of this description, and change the stock upon them every season. This we know to be contrary to general practice; and that what is called the *hog's fence*, is carefully guarded against the intrusion of every other animal*.

Lambs,

The comparative health of *pet-sheep*, or those feeding and housed with cows, at all seasons, he attributes more to covered shelter from the weather, than to superiority of feeding; and has therefore resolved to make all his sheep *pets*, in so far as to provide them with shades, to retire to in coarse weather. From the natural constitution of the sheep, he is of opinion, that more is to be expected from attending to the *rationale* of their management, the *juvantia* and *ledentia*, than from medicine, which can rarely be timeously administered.

* In regard to the quality of pasture, as a cause of *sickness*, Tweeddale farmers seem of opinion, that it arises from the *foulness of the grafs at the root in the*
hog-

Lambs, immediately after they are weaned, are frequently sent to poor pasture, which is called *birning* them. Now, this appears to be a very bad practice; for the consequence is, that they fall off considerably, before they get at the rich grass in the hog's fence, of which they eat too freely; and thus become disposed to the disease treated of. Children, and all domesticated animals, are carefully fed with nourishing food, for a considerable time after they are weaned; and yet they fall off for some time. It would certainly be better to give the lambs the hog's fence at once, and use every precaution to prevent them from falling off.

As the disease is generally advanced to a dangerous height before it is observed, we fear that medicine affords but a very faint hope of cure. The disease being inflammatory, the shepherd should attempt to bleed the distressed creature as soon as possible; which he can easily do, by cutting off part of the tail,

hog-fences, which are never eaten bare. Some, therefore, take care to have the land, to be saved for the hog-fence, once eaten as bare as possible early in Summer, by the black cattle upon the farm, or by old sheep.

It seems ascertained, in Tweeddale, that land which has been in use to be pastured by older sheep, when converted into a hog-fence, is not liable for some time to produce sickness. Two accidental experiments occurring, in which this practice took place, in consequence of new arrangements, in the farms of Harehau, in Eddlestone parish, and of Lyne, in Lyne parish, confirm this conclusion. It is farther confirmed, by an experiment of Mr Murray, tenant in Flemington mill—About 20 years ago, he bought in different parcels of lambs for hogs, and laid them upon the hog-fence, of his hog-farm of Broughtonhau, in Broughton parish: In one of the parcels, of much higher condition than the rest, the sickness broke out to such extent, that they were dying at the rate of two or three daily; so that the whole parcel seemed in imminent risk: He transferred this whole parcel to the farm of Fingland, in Newlands parish, where only old sheep were kept, putting them on some of the lower pasture of that farm, which had been hained for feeding the crock ewes, and transferring a proportional quantity of these ewes to Broughtonhau hog-fence;—not one of the lambs died upon Fingland. To the same effect, it deserves attention, that in small farms, not admitting of distinct hirseling, where, of course, old and young sheep pasture, mixed together, hogs are very little liable to sickness, though perhaps worse in other respects. These facts correspond with Mr Gillespie of Glenquich's observations. (See Report, page 196.)

tail, or by nicking it underneath, or by cutting off part of the ears. The animal should then be removed to a house, or shed, and attempts made to produce evacuations. In brute animals, it is difficult to produce these by medicines administered by the mouth. The speediest and most effectual method is, by injections into the rectum, or anus. Such injection may consist of a small handful of camomile flowers, two tea-spoonfuls of anise seeds, and as much carvey seeds; to be boiled slowly in a Scottish mutchkin, or English pint, of milk and water, until the half is evaporated. The liquor should then be strained off, and two tea-spoonfuls of castor oil added: or, if this is not at hand, the same quantity of good sweet oil may be used. This should be administered warm, by an injection bag and pipe; or by an elastic gum bottle, with a pipe properly fitted. Nothing can be easier, than to give a sheep a clyster in this way; and, in all probability, it will have a happy effect, in evacuating the bowels, and procuring relief.

If this does not operate very soon, it may be repeated an hour after, and a large tea-spoonful of common salt added to the former ingredients. If, after all, the animal does not seem relieved, another clyster may be given, consisting of a small tea-cupful of warm milk and water, to which are added from twenty to twenty-five drops of laudanum *.

As

* When physician to the army, I found inflammation of the bowels a very common complaint. It was attended with costiveness, and a large quantity of air was generated in the stomach and intestines, which was highly distressing to the patient. Each of the following clysters I found of great use:

Warm water, or water gruel, eight or ten ounces; Castile soap, two or three drachms; Glauber's purging salts, half an ounce; fallad oil, one ounce.—Mix, and to be thrown up the rectum.

If this did not procure a stool in the space of an hour or two, it was repeated. When the patient had had a stool (within two or three hours after) I used the following:

Warm water, or water gruel, ten ounces; nitrous æther, two drachms; fallad oil, one ounce; and if there was pain or uneasiness, I added to it forty, fifty, or sixty drops of laudanum.

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As there is a great distension of the stomach and bowels, arising from gases, or elastic vapours, generated in the intestines, Mr Walker of Cumberland, in a treatise he wrote upon the diseases of brute animals, has suggested a remedy for this disorder, which has often proved successful in his district. It consists in pushing down their throats a flexible tube, such as Dr Monro has recommended, and which has proved successful in relieving cows that had over-gorged themselves with red clover early in the season. This seems a probable mean of affording temporary relief; and every shepherd that has the care of the hog flock, should be furnished with one of these tubes, adapted to the size of sheep, for trying the experiment upon those hogs that labour under the disease.

2. *Watery Braxy*.—This differs from the former respecting the seat of the disorder, though the effects are nearly the same. It is analogous to the suppression of urine, a disease frequent among

(Addition to the preceding Note.)

From November, at smearing time, till the Christmas (this year 1777), two facts, in regard to the mode of cure, have been stated to me, and which, I am disposed to think authentic.—In the farm of Drummelzier, parish of Drummelzier, three hogs (out of four upon which the experiment was tried) recovered, upon bleeding, and having poured down their throats a decoction of tobacco—about a finger's length of twist tobacco boiled in water till the water was diminished to a gill, being the dose for each.—In the farm of Broughton-haup, parish of Broughton, within the same space of time, nine or ten (out of sixteen or seventeen upon whom the experiment was made) recovered, upon bleeding, and having an injection of tobacco-smoke administered from a common tobacco-pipe, by kindling the tobacco, inserting the pipe-stalk into the anus, and blowing: the experiment, however, was not so successful in some later instances. I have, long ago, seen a ewe cured by bleeding, and injection of Glauber salts from a common clyster-bag and pipe.—Where braxy breaks out, it might be useful, where attainable, to lay the hogs, nightly, upon dry ground, if the hog-fence is wet; the chilliness of wet ground contributing, no doubt, to the production of inflammation: Clover foggage, or turnip, might be good preventatives, from inducing a lax habit. Mr Gillespie in Glenquich observes, that saltpetre has been successfully used in the *black spauld*, a disease of young black cattle, supposed analogous to braxy in sheep, both as a preventative and cure. His proposal, of taking the hogs from the hog-fence about the beginning of August, and keeping them, from thence till 12th September, upon coarse hill-grass, as a preventative or cure for sickness, would not, it is conceived, answer in Tweeddale, as these grasses are then faded: It might prevent sickness, but would induce poverty.

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among females of the human species, and caused by their sedentary habits. Watery braxy consists in the bladder being over-distended with urine, which raises violent inflammation in that organ, and produces an incapacity to discharge the urine that is accumulated. The consequence is, that the urine regurgitates over the system; fetid gases taint the whole carcase, as in the former case; the bladder becomes gangrenous, bursts, and the animal dies. Young and vigorous sheep are most liable to this species of braxy, like the former. The immediate cause of the disease, is feeding too freely on succulent diuretic food, and resting too long in their layers in the morning. It has been frequently observed, that this species of braxy is most apt to make its attacks on Sundays; because shepherds generally sleep longer on Sunday mornings, than other days of the week, and, of course, allow the hogs to remain too long in their layers.

This disease may be prevented by avoiding too free an use of succulent diuretic food, and by moving the animals from their layers early in the morning, making them walk about for some time, in order to encourage them to pass their urine and purr.

In attempting a cure, it may be known if the bladder is affected, by a great fulness in the lower part of the belly, immediately above the pubis. The seat of the disorder being discovered, a female silver catheter, or one of elastic gum, ought instantly to be passed through the urethra into the bladder of females. This will draw off the urine, and afford instant relief. But this will be more difficult in males, and, if attempted, must be done with a long and properly bent catheter, or bougie. In either case, when this cannot be effected, a puncture may be made into the bladder with a trocar, immediately above the pubis, taking care not to wound the intestines. By either of these methods the urine may be discharged, and the animal relieved.

In other respects, with a view to allay, or prevent inflammation, evacuations should be procured by clysters and warm injections into the rectum, as already described. If the several ingredients we have mentioned be not at hand, injections
should

should be attempted, composed of warm milk and water, nearly in equal parts.

3. *Costive Braxy, or Cholick.* This is caused by the fæces hardening in, and adhering to the duodenum or rectum, so as to obstruct the passage, and produce inflammation, and consequences similar to those already described. The cure should be attempted by injections and laxative food.

VI. *Sturdy, or Water in the Head.*

This disease is particularly incident to hogs of a year or 18 months old. It consists of a collection of water generally formed upon the external surface of the brain, immediately below the cranium; and sometimes, though not often, in the centre, or ventricles of the brain. When the water forms in the last mentioned parts, we apprehend it is almost universally mortal.

The disorder is first discovered, by the animal not keeping up with the rest of the flock, and, by its appearing dull and stupid. It is afterwards observed to go round in a giddy manner; and, at last, it appears blind, and the pupil of the eye seems wide and relaxed. It may continue a long time in this way before it dies; and, we believe, sheep sometimes recover of this disease without any thing being done for them. They are often in good order when they die, as they continue to feed tolerably well, until near the last period. Though some recover, with and without means, perhaps it may be most advisable to kill them early in the disease, provided they be in good order; as this local distemper does not affect the goodness of their mutton.

When the collection of water is on the outside of the brain, it is often cured by thrusting a sharp wire up the animals nostrils, until it reaches the water, and opens a passage for it to run off. In other cases, it is cured by an operation which some shepherds perform very dexterously. The water is contained in a bladder, or vesicle, generally about the size of a walnut. The part of the skull, immediately above where it is situated, feels softer than other parts. This the shepherd discovers,

discovers, by pressing with his thumb and fingers upon different parts of the fore and upper parts of the skull. The bone here has become thinner, and feels soft; from which, he is certain that the watery collection is formed. After the disease has gone on a considerable time, and he judges it is ripe for the operation, he raises the scalp, and lays the bone bare to a sufficient breadth, with a sharp knife; he then discovers more accurately the extent of the thin soft part of the bone, and with a strong and sharp-pointed knife he makes a circular incision in the skull, raises up, and takes out the part. He then sees the clear thin bladder underneath, which he lays hold of with a small hook, or the point of a needle, and gently draws it out; taking all possible care that it should not be broken, or the water spilled, which would prove unfavourable to recovery. He finds a considerable hollow in the brain, where the bag was situated, over which he brings the flap of skin that was raised, so as to cover it as neatly as possible. Over the whole he applies a plaster of tar, and leaves the rest to nature. This operation often proves successful*.

VII. *Palsy, or Thorter-ill, or Trembling.*

This disease is seated in the nervous system, and is perfectly similar to palsy in the human species. It is sometimes produced by eating poisonous and stupifying plants; and sometimes it arises from weakness, or general debility. Flowers of zinc, administered in small doses in bread pills, or the same metal converted into a salt, by union with an acid, is the most powerful known remedy for this disorder.

VIII. *Diarrhœa, or Cling, or Breakbaru,*

Is a looseness, or violent purgation, which sometimes seizes sheep after a hard winter, when they are too rashly put

3 F

upon

* The operation by a wire, or by the trepan, which are indiscriminately used, may succeed in Tweeddale, once in thrice at an average. Of late, a gimlet has been bored twice into the skull and brain, from the root of the nostril, in a direction to the root of the horn on the opposite side of the head—apparently with equal success, however seemingly mortal the wounds. C. F.

upon young succulent grafs. The cure fhould be attempted by making them feed upon astringent plants, fuch as tormentil, bark and leaves of oak and willow, or bruifed twigs of thefe plants. If thefe do not foon check the diforder, opiates and laudanum may be adminiftered: From 15 to 20 or 25 drops of laudanum, thrown upon a piece of wheaten bread; which the animal is made to fwallow, will foon check the diforder; and it fhould be repeated, if it returns with violence. Or, the laudanum may be dropped among a little warm milk, and poured down its throat*.

Another fpecies of diarrhœa frequently occurs in the laft ftage of chronic diforders, and is only to be cured by promoting the ftrength of the animal.

IX.—*Rot.*

The general difcriminating character of this difeafe is, that its feat is in the glandular fyftem; though many different diforders are confounded under this name. The diforder is either partial, and confined to particular glands; or general, and affecting the whole fyftem.

I. *Pul-*

* John Loch, Efq. takes notice of what is called *breakbarv*, or *breadbarv*, in Tweeddale, as a difeafe analogous to dyfentery in the human fpecies, occurring in the end of wet Summers. The difcharge is thin and greenifh coloured, (he fupposes from the wet grafs becoming acid in the ftomach, and turning the gall green); it is more or lefs mixed with blood, fometimes florid, fometimes grumous and black; the animal pines for a week or two, and dies; though fometimes it recovers: Warm milk poured down the throat, is the cure ufed by his herd: He propofes, when it occurs, to try, in addition, nitre in half-dram dofes, with chalk or other abforbent powder, and 20 or 30 drops of laudanum, once or twice a-day, with frequent injections of warm milk and water.

This difeafe (in conformity to Mr Gillefpie of Glenquich's obfervations upon Cling) is often occafioned by overheating, when hunted by dogs, in folding them, &c. or when otherwife feared and terrified. It is confiderably infectious; and, probably, the method mentioned by Mr Gillefpie, of tarring part of the flock, that the fmell of the tar may prevent the infection, may be of great advantage.

C. F.

1. *Pulmonic Rot*, or consumption, most frequently attacks young sheep, especially of the more delicate breeds, in unfavourable situations and seasons. The most general cause is cold and wet, especially at the end of Winter, or beginning of Spring, joined to damp situations, and scanty subsistence. The lungs are found to be tuberculous; the animal coughs; and, in the progress of weakness, an œdematous swelling, called in Scotland the *pock*, or *poak*, is formed under the jaw. This swelling is of a dropsical nature, and is merely a symptom of weakness common to many disorders. It may be pierced, and the water it contains drawn out. In this kind of rot, the liver is found.

2. *Hepatic Rot* has its seat in the liver, and there are several varieties of it. 1. Sometimes it appears in the form of *schirrus*, the liver being hardened and swollen. This occurs in wethers, during a dry year, when their provisions are scanty, and they labour under an over-costive habit. It may be prevented by more abundant, and perhaps more succulent food. 2. Disordered liver from the fluke-worm, or *fasciola hepatica*, occurring in the biliary ducts; and sometimes, in consequence of ulceration, appearing even on the surface of the liver. This species of disease prevails in some low, moist grounds, more than others; and, even there, in some particular animals more than others. Its origin is obscure, and no cure has yet been attempted. Mercury is the only remedy that promises to be successful; and it may be occasionally administered in small doses, in bread pills: or mercurial ointment, such as we have described, may be rubbed upon the inside of the animal's thigh, previously laid bare, until the body seems saturated. But, when this disease is discovered to be frequent in a flock, the whole should be disposed of as soon as possible. 3. Sometimes the liver is, in some parts, filled with watery vesicles; and sometimes there is a slight thickening, and apparent inflammation, in particular portions of it. But whether these should be considered as indications of a primary affection of that organ, or only consequences of another disorder, is uncertain.

3. *General, or true Rot.*—This is by far the most important, because the most destructive, and, in some situations, the most common malady to which sheep are exposed. It arises from deficient, or bad aliment; whether the food itself be bad and scanty, or the animal be incapable of digesting it properly. It is most common from the former cause, want of food; and the disease is much the same with scurvy among the human race. In addition to these causes, whatever tends to depress the spirits, frequently excites, or at least exasperates the malady. It is said, that soldiers in a garrison have been known to be seized with the scurvy on hearing bad news: and I doubt not but terrifying sheep with dogs, or other means, may produce, or aggravate, this disease. We may hence see what mischief a fox-chase, or any exhibition of that sort, is calculated to bring upon a flock of sheep. The disease is also said to be produced by feeding upon watered grass: and hence shepherds, in many parts of Scotland, are careful to keep off their sheep from the tender grass, produced by the occasional overflowing of rivulets. Feeding, also, in marshy and damp pastures, is known to be a powerful cause of the rot.

The only means of cure, are a supply of good and wholesome food, and invigorating the stomach, by permitting the animal to feed on those stimulating and aromatic herbs which are agreeable to its taste. It is believed, that, on dry sweet pastures, where there is a sufficient quantity of furze and broom, juniper, and other shrubs that are palatable to sheep, the rot is seldom heard of. When ground is sown down for sheep pasture, parsley, thyme, peppermint, and other aromatic herbs, should be sown with the grass seeds, as these plants serve both to prevent and to cure the rot. In addition to these means of cure, every thing that tends to annoy or depress the animal, in its weakly state, ought to be avoided*.

X.

* Shepherds in Tweeddale are generally unable to distinguish these three kinds of Rots (as they are unable also to distinguish the three different kinds of Braxy) from

X. *Foot Rot,*

Is a suppuration in the glands between and above the hoofs, and is precisely the same with chilblains in the human species. The remote cause of the disease is weakness, and the immediate cause is cold and wet. Standing, in cold weather, with the feet perpetually soaked in water upon wet pastures, produces this disease; and it can only be removed, by procuring for the animal warmth and dryness, while its body is invigorated by proper food.

CONCLUSION.

It is evident, from what has been stated, that it is much easier to prevent, than to cure, the diseases of sheep. With a view to prevent diseases, it is unnecessary here to recapitulate what has been so largely detailed in other works, about draining their pastures, and removing its dampness: about sweetening the herbage that grows upon these pastures: about providing proper shelter, by trees, sod dikes, sowing or planting whins, broom, juniper, and other shrubs: about providing a proper supply of wholesome food during Winter, and especially in the beginning of Spring, from turnips, and other roots; or from bruised twigs, where the others cannot be procured.

We

from external symptoms in the live animal. The *pouch* gives great suspicion, but is not an infallible symptom of rot. The old breeding ewes are annually examined about Michaelmas. They are judged of as rotten or fresh, by handling; the flesh of the rotten being more loose and flabby: The principal mark is taken from the appearance of the eye, in the corner next the nose, when the eyeball is turned to look away from the nose: in a sound sheep, the flesh adhering, in this corner, to the eyeball, under the eyelids, is of a florid red colour; in the rotten, this flesh is of a dull appearance, and a yellowish red, somewhat like the colour of a rotten egg when the yolk and white are confounded together. The rotten are always sold off among the corks, no cure being attempted. C. F.

We have only one observation more to add. In addition to the conveniences already existing upon large store farms, we conceive it would be an improvement to have what may be called an hospital park, or enclosure. This should be situated upon the dryest and kindliest soil in the farm, and should be sown with all the grasses and aromatic plants which are known to be most friendly to sheep. It may also have a convenient assortment of those shrubs which are known to be most palatable to them. It should also be provided with a dry shed, where certain individuals may be confined when necessary. To this asylum the diseased may be removed; and, while proper means are employed to effect their cure, the infection will be prevented from spreading among the rest of the flock.

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